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AGRICULTURAL COLLEGE OF NEW MEXICO.

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CHICAGO, ILL.:
Hornstein Bros., Printers.
1890.

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233

THE
AGRICULTURAL COLLEGE
AND
EXPERIMENT STATION
OF
NEW MEXICO.

CATALOGUE FOR 1890
AND ANNOUNCEMENTS FOR 1890-91.

LOCATION:
LAS CRUCES, DONA ANA COUNTY, NEW MEXICO.

CHICAGO, ILL.:
HORNSTEIN BROS., PRINTERS.
1890.

BOARD OF REGENTS.

L. Bradford Prince, Governor, *Ex-Officio.*
——————————, Supt. Pub. Ins., *Ex-Officio.*
John R. McFie, Las Cruces, 1890.
Robert Black, Silver City, 1891.
J. A. Whitmore, San Marcial, 1892.
Numa Raymond, Las Cruces, 1893.
Wm. L. Rynerson, Las Cruces, 1894.

OFFICERS OF THE BOARD.

John R. McFie, President.
Wm. L. Rynerson, Secretary and Treasurer.

FACULTY.

HIRAM HADLEY, A. M., President.
Professor of Mathematics.

AINSWORTH E. BLOUNT, A. M.
Professor of Horticulture and Agriculture.

ELMER O. WOOTON, B. S.
Professor of Chemistry and Botany.

JOHN P. OWEN,
Professor of History and Civics, and Principal of Preparatory Department.

PHOEBE A. HAINES, M. Sc.
Teacher of Drawing and Assistant in Preparatory Department.

COSETTE RYNERSON,
Teacher of Instrumental Music.

(Other professors will be added as needed.)

EXPERIMENT STATION.

BOARD OF CONTROL.

THE REGENTS.

OFFICERS.

Hiram Hadley, A. M., Director.
Ainsworth E. Blount, A. M.,
Horticulturist and Agriculturist.
Elmer O. Wooton, B. S.,
Chemist and Botanist.

STUDENTS.

Note.—The College opened January 21, 1890, and the students were classified as below; but they have not had the full year and must remain in the same classes whatever time is needed to complete the work.

SOPHOMORES.

Frank Raymond Frazier	Albuquerque
Samuel Steel	Las Cruces

FRESHMEN.

Myrtle Bailey	Mesilla
Mattie Evelyn Bowman	Las Cruces
Charles Roderick Buchoz	“ “
Clinton DeForest Curtis	Victoria
Jessie Edna Casad	Mesilla
Sophia French	Las Cruces
Fabian Garcia	Mesilla
Leona Agnes Litsey	Las Cruces
Ivah Rebecca Mead	Victoria
Oscar Snow	Mesilla
William Hickman Skidmore	Las Cruces
Claude Alonzo Thompson	Earlham
Robert Walker Watson	Las Cruces
George Morgan Williams	“ “
Frank Sinclair Wood	Mesilla

PREPARATORY.

Laura Beckwith	Las Cruces
Alfred Julius Buchoz	“ “
Edith Marian Dawson	Mesilla
Maggie May DeMier	Las Cruces
Matthew James DeMier	“ “
Susan A. Foster	—— Mass.
Thomas Fountain	Las Cruces
Numa Charles Frenger	“ “
Charles Pepper French	“ “
Hope Louise Gans	“ “
Llewellyn Gans	“ “
Leva Thomas Granger	“ “
Claude LaRue Herron	Victoria
Charles Jacob Kezer	Las Cruces
Ralph Elmo McFie	“ “
William Logan Rynerson	“ “
Lucinda Smith	“ “
Eleanor Maude Steel	“ “

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INFORMATION.

Agricultural Colleges in the United States owe their existence to an act of Congress approved July 1, 1862, by which, from donation of public lands, they are liberally endowed.

Without reciting this act in full, its provisions include the following:

Section 1 donates to each *State*, for the endowment of an Agricultural College, 30,000 acres of land for each Senator and Representative in Congress.

Section 3 provides that the States shall pay all expenses of selection of lands, taxes, etc., so that the entire proceeds shall be applied without diminution to the purposes mentioned in the act.

Section 4 provides for the safe investment of the proceeds from sales of lands to constitute a perpetual fund, which shall remain forever undiminished for the "endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Section 5 provides the terms on which States may avail themselves of the benefits of this act. They must give their assent; must make good any losses of the fund; no portion of it can be used for purchase, erection, or repair of any building; an annual report must be made of progress made, etc.

The other portions of the act relate to the carrying out of the provisions cited above.

At the twenty-eighth session of the Legislative Assembly of the Territory of New Mexico, an act, approved February 28, 1889, was passed, creating an institution of learning known as the "Agricultural College and Experiment Station of New Mexico," and locating the same at Las Cruces. Among other provisions of said act are, that it "shall be non-sectarian in character and devoted to practical instruction in agriculture, mechanic arts, natural sciences connected therewith, as well as a thorough course of instruction in all branches of learning bearing upon agriculture and other industrial pursuits."

"The course of instruction of the college hereby created shall embrace the English language, literature, mathematics, philosophy, civil engineering, chemistry, animal and vegetable anatomy and physiology, the veterinary art, entomology, geology, political, rural, and household economy; horticulture, moral philosophy, history, mechanics, and such other sciences and courses of instruction as shall be prescribed by the regents of this institution of learning."

EXPERIMENT STATION.

By the same act the Territory accepted the conditions named in the Congressional act approved March 2, 1887, giving to States and Territories $15,000 annually "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." To carry out the purposes cited the said act provides that under the direction of the Agricultural College of each State or Territory, "there shall be established a department to be known and designated as an agricultural experiment station."

"It shall be the object and duty of said experiment station to conduct original researches, to verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories."

A study of the national and territorial legislation—a portion of which has been cited above—will give a clear idea as to what part of the extensive field of learning Agricultural Colleges are expected to occupy.

The Experiment Station being a "department of the College," the College and the Station may be considered as having a unity of purpose.

The national act says: "The *leading* object of the College shall be to teach such branches of learning as are *related* to agriculture and mechanic arts, in order to promote the *liberal and practical education of the industrial classes in the several pursuits and professions of life*." Other scientific and classical studies are not excluded, and military tactics are included.

The training expressed and implied will fit men and women for the duties of life. It reaches out after the "industrial classes," and endeavors to give to them a "liberal and practical education,"—not in one or two beaten paths only, but in the "several pursuits and professions in life." It permits "other scientific and classical studies," and thus opens the doorway to any of the professions. Its tendency is to dignify labor, to elevate the laborer, to invest the callings of the farmer and the mechanic with pleasant toil, and make mental and spiritual growth the companion and the reward of toil. It tends to equip men and women with nobleness of purpose and a high order of mental and moral character, to give to them just notions of the duties and privileges of citizens of our great commonwealth, and to put into their possession the means of obtaining a respectable and remunerative livelihood in those vocations that may develop the highest manhood and give the most perfect freedom to mind and body.

It is the desire and intention of the Board of Regents and of the Faculty to found an institution that shall reflect the liberal, exalted purposes provided for in the legislation by which it has its existence.

The College was opened to students January 21, 1890, the formal ceremonies being deferred until March 11th. On the latter occasion many of the leading citizens of the Territory and representatives of the Press from our own Territory and the neighboring States of Texas and Colorado were present. The event aroused the liveliest enthusiasm, and addresses were delivered by Gov. L. Bradford Prince, Judge Jno. R. McFie, President of the Board of Regents; Hon. E. A. Fiske, U. S. Attorney; Hon. Mr. Stiffen, Hon. John Y. Hewitt, and others.

COURSE OF STUDY.

FRESHMAN.

Autumn.		Winter.		Spring.	
Algebra	5	Algebra	5	Algebra	5
Higher Grammar	5	Elementary Rhetoric	5	Spanish	5
Bookkeeping	5	Ancient History	5	Botany	5
Drawing	3	Drawing	3	Drawing	3
Elementary Agriculture, Lectures	1	Elementary Agriculture and Horticulture	1	Elementary Horticulture	1
Elocution	1	Composition	1	Speaking	1

SOPHOMORE.

Plane Geometry	5	Plane Geometry	5	Plane Trigonometry	5
Spanish	5	Medieval and Modern History	5	English Literature	5
Chemistry	5	Chemistry	5	Physiology	5
Drawing	3	Drawing	3	Drawing	3
Agriculture	1	Agriculture and Horticulture	1	Horticulture	1
Elocution	1	Composition	1	Speaking	1

JUNIOR.

Surveying and Levelling	5	Spherical Geometry and Spherical Trigonometry	5	Ag. Chemistry	5
Zoology and Entomology	5	Geology	5	Botany	5
Physics	5	Physics	5	Civics	5
Stock—Lectures	4	Horticulture—Lectures	4	Agriculture—Lectures	4
Original Theses	1	Original Theses	1	Original Theses	1

SENIOR.

Psychology	5	Moral Science	5	Political Economy	5
Literature	5	Astronomy	5	Meteorology	5
Higher Algebra	5	Veterinary	5	Literature	5
Agriculture—Lectures	4	Horticulture—Lectures	4	Preparation of Thesis	5
Orations	1	Orations	1		

TEXT BOOKS.

PREPARATORY DEPARTMENT.

Arithmetic—Appleton's Numbers Applied.
Grammar—Reed & Kellogg's Graded Lessons.
Geography—Swinton's.
History—Eggleston's.
Readers—Appletons'.
Drawing—Prang's System.
Hygiene—Health Primer No. 2.

COLLEGE.

Algebra—Sensenig.
Higher Grammar—Reed & Kellogg's One Book Series.
Rhetoric—Kellogg.
Spanish—Monsanto and Languellier's.
Book-keeping—Williams & Rogers'.
Ancient History—Barnes' and Sheldon's.
Geometry—Wentworth.
Trigonometry—Wentworth.
Surveying—Wentworth & Gillespie.
English Literature—Kellogg's and Smith's.
Chemistry—Remsen.
Physiology—Not chosen.
Botany—Gray and Coulter.
Physics—Avery.
Others will be announced later.

REQUIREMENTS FOR ADMISSION.

To enter the Freshman Class of the College, pupils must be able to pass a satisfactory examination in reading, spelling, writing, arithmetic, English grammar equivalent to what is contained in Reed and Kellogg's Graded Lessons, U. S. History equivalent to that contained in Eggleston's or Barnes' History, Descriptive Geography, Hygiene as found in Barnes' Pathfinder No. 2.

A WORD ON PREPARATION.

Students and patrons often importune teachers to admit applicants to advanced standing, even though it is evident that the party under consideration is deficient in preparation. Teachers, being desirous of pleasing when they can, often yield to these importunities and grant the supposed favor. Long experience convinces us that all parties concerned make a great mistake. Pupils enjoy what they can comprehend, and dislike what is beyond their ability. Education is a growth. It can be forced abnormally with no better results than the young oak can. Good preparation insures good progress, happy times, and satisfactory results. Deficient preparation breeds discouragement, stimulates irritability, makes the pupil dissatisfied with himself, his teachers, and the school, and in the majority of cases he leaves school and spends his life ignorant and uncultivated. Therefore, please be anxious and willing to patiently prepare before seeking admission to the Freshman Class.

To guide students somewhat in their preparation the following suggestions are offered:

In Arithmetic, pay particular attention to Greatest Common Divisor, Least Common Multiple, the fundamental processes in Common and Decimal Fractions, especially Division of Decimals; Percentage, especially True and Bank Discount; Proportion, Square and Cube Roots.

In Grammar, learn the difference between simple, complex, and compound sentences; analyze each kind, and know well the difference between the object and attribute complements; be able to use capitals and punctuation marks in simple exercises, and be more anxious to use language correctly than to recite definitions and rules.

In United States History, get clear notions of the Discoveries, Explorations, Early Struggles of the Colonists, Revolutionary War—its Causes and Results, Principal Events of the Several Administrations; Causes, Events and Results of the Civil War, and important events that have transpired since. Learn thoroughly important facts rather than a minute detail of minor matters.

By all means strive to be a good speller. An experienced educator was accustomed to say: "It is no honor to be a *good* speller, but it is a great disgrace to be a *poor* one." Poor spelling has blighted many a good prospect.

PREPARATORY DEPARTMENT.

The facilities in New Mexico for obtaining an elementary education being somewhat limited on account of an insufficient number of good common schools, a Preparatory Department is connected with the College. The Principal of this department is an experienced and successful educator, and pupils in it will have the same advantages and care as those in the College Department.

REMARKS ON THE COURSE OF STUDY.

As a leading purpose of the College is to train pupils in branches related to Agriculture and the Mechanic Arts, it will be necessary to have at least two courses of study—one in Agriculture and one in Mechanic Arts. As it is impossible to equip the College this year with shops, tools, etc., the latter course is not outlined. It is confidently expected that in the near future these will be added.

Whilst rudimentary military tactics may be taught the coming year, it is not probable that much will be done in this line until our buildings are completed and our numbers become sufficient to induce the War Department to detail an Instructor in this branch.

It will be noticed that the ancient languages are not named in our Course of Study. This is not intended to be a Classical College; but if we have students who desire Latin, their wants will be met.

MATHEMATICS.

It is the intention to lay a thorough and practical foundation in elementary Mathematics, embracing Arithmetic, Algebra, Plane and Spherical Geometry and Trigonometry, Surveying and Levelling. Our aim is to go deep rather than broad, and to qualify the student to read, at his pleasure, more advanced works.

The College is provided with a first-class transit, level, etc., and students in Surveying, Levelling, and Trigonometry will have practical training in the use of these instruments.

PRACTICAL AGRICULTURE AND HORTICULTURE.

In this department of the Course of Study the purpose is not to make complete farmers, fruit-growers, and stock-breeders, full-fledged and proficient in all lines of practice; but men, intelligent citizens, with correct, rudimentary knowledge so well established that it may serve them as a sure and infallible groundwork for future acquirements and future development. Agriculture being the basis of all the industrial pursuits, a wide range of instruction on both general and special subjects is absolutely necessary.

In the course submitted we recognize the facts that education is always a help to the farmer; that he may be more successful as a farmer after a thorough training in any line of study—classical, scientific, or technical—the education only making more effective the powers of his mind; and that the best years of his life for college work are the best for acquiring a business knowledge and training.

The course proposes to furnish to all who wish to be farmers, in the true sense of the term, an opportunity to inform and acquaint themselves with the many scientific questions and teachings which their work daily brings before them, and to assist them in working out many problems yet unsolved.

During the Freshman and Sophomore years a series of lectures on the Elements of Agriculture and of Horticulture will be given, the scope of which will include the history and development of Agriculture as an art and a science, its relations to other arts and sciences and to our national prosperity; on farm crops, planting, cultivating, and harvesting; stock, manures, fertilizers, buildings, fences, implements, accounts, buying, and selling.

Under the head of Horticulture the lectures will include pomology, vegetable gardening, floriculture, and seed growing.

During the Junior year lectures will be given on the various breeds of cattle, horses, sheep, swine, and poultry; soils, seeding, irrigation, stock-feeding for flesh and milk.

In Horticulture—budding, grafting, layering, pruning, care and cultivation of fruit trees, vines, and small fruits.

During the first and second terms of the Senior year, rotation of crops, drainage, cereals, their improvement by selection, crossing and care, principles of feeding, milk, butter and cheese-making. In Horticulture—landscape gardening, ornamentation with trees, shrubs, flowers; lawns, wind-brakes, and the effects of trees on the climate, etc.

BOTANY.

Elementary Botany. In the spring term of the Freshman year the organs of plants are studied first, most of the time being devoted to Phænogamic Botany. The subject of Cryptogamic Botany will be briefly studied in the latter part of the term, as well as some of the more prominent points of Physiological Botany.

The classification of plants and their uses are other points which will receive attention. During this term it will be a part of the required work that each student shall analyze a number of flowers, as well as prepare some few specimens for the herbarium. Each student is required to provide himself with a pocket lens, needles, and other apparatus necessary for the analysis of flowers.

Gray & Coulter is the text-book in use.

Advanced Botany. In the spring term of the third year two hours daily are devoted to the study of Physiological Botany. For this purpose the College is supplied with Bausch and Lomb's compound "Model" microscopes, with magnifying power of from 50 to 300 diameters, as well as with all apparatus, reagents, books of reference, etc., necessary for the study of the minute structure of plants.

The method of work will be the study of the simple vegetable cell, its contents, various modifications, etc., from the simplest to the most complex forms of plant life.

Some of the time will be devoted to the study of smut, rust, and other parasitic cryptogams, thus introducing the student to the plants which are damaging to the various valuable members of the vegetable kingdom. The intention is not to attempt anything more than a good foundation for future work, but just to touch upon the general and more important points of microscopic botany, and so give an outline view of the subject.

Opportunity for more advanced work in this department will be given if desired by students, but special arrangements must be made for it.

Bessie's Botanies, and Arthur, Barnes', & Coulter's Handbook of Plant Dissection will be used as guides in this work.

The best books of reference upon the subject will be at the command of students in this department, as well as the best periodicals published.

A fee of $1.00 per term will be charged to cover the wear of instruments and expense of reagents.

CHEMISTRY.

During the fall term of the Sophomore year students will study the theory of Chemistry, acquainting themselves with symbols, valence, atomic weights, methods of writing reactions, etc., assisted by occasional recitations in the laboratory and many experiments before the class.

Most of the time will be devoted to the study of inorganic chemistry, although organic chemistry will receive some attention.

In the winter term students will spend two hours daily in the laboratory, where each will be supplied with a full list of reagents and all necessary apparatus for the analysis of all common compounds. All the various methods of chemical separations will thus be learned by experience, and the examinations will consist of the analysis of several substances of which the student knows nothing more than what he may see, feel, taste, or smell, and of which he must find out all that may be known. Text-books: Remsen's Briefer Course, and Laboratory Manual, by Dennis.

The spring term of the Junior year will be devoted to the study of Agricultural Chemistry and Mineralogy. This will include the chemistry of the farm, the formation and composition of soils, the analysis of soils, manures, feed-stuffs of all kinds, and all the various operations on the farm into which chemistry enters.

In Mineralogy the student will become acquainted with the physical and chemical characteristics of the more common minerals by actual examination and blow-pipe analysis of the minerals themselves.

The chemical department will be supplied with a first-class department library, as well as with the best periodicals published in the English language.

BOOK-KEEPING.

This branch will be taught by one who thoroughly understands the subject, and has had large experience in business and the counting-room. In the time allotted to it, it can not be expected that the novice can become proficient in all its departments, but a good training will be given in principles, and to those who desire it additional instruction will be given.

INSTRUMENTAL MUSIC.

A special teacher has been employed for the Department of Music, and it is hoped that it may become one of the important features in the culture which we hope to give.

For instruction in Music a separate charge will be made.

TEACHERS' CLASS.

This is not a Normal School, but as many young men and women find it advantageous to do more or less teaching, and as there is no Normal school within some 500 miles of our College, and as several members of the College faculty have had considerable experience in normal work, especial pains will be taken with those who desire to teach. They will be assisted in such way as to make them more successful in their work.

FARMERS' INSTITUTES.

Institutes will be held during the winter at such times and places as shall be fixed by the chairmen of the local committees and that of the College. Members of the Faculty of the College are delegated by the Trustees to make arrangements with the local committees for a two or three days' meeting, the exercises of which shall consist of lectures, papers, essays, and discussions upon the leading topics in agriculture, horticulture, stock, etc. These will be sustained by a joint effort of the people where the Institutes are held, and by the members of the Board and Faculty of the College.

BUILDINGS.

The College was opened in rented buildings, which will be occupied until the new building is completed—about December 1st. The present quarters are located in the town of Las

Cruces, but the new building and the Agricultural College farm are about two miles south of Las Cruces. The farm joins the town site of Mesilla Park, which will be the railroad station nearest the new building.

The new building will be an elegant two-story and basement brick, with stone trimmings, and situated in a most beautiful and healthful spot.

THE FARM.

The Agricultural and Experimental Farm contains about 200 acres, 90 of which are of the finest quality of rich, alluvial soil under irrigation, and the remainder consists of various grades of soil, part of it mesa land, at present beyond the reach of irrigation, but very valuable for our purpose. The farm is now in process of improvement, and it will become a most potent factor in giving to young men and young women correct and exalted ideas of the profit and pleasure that may be found in rural life.

APPARATUS AND LIBRARY.

The College has a good supply of Botanical, Physiological, Chemical, Physical, and Mathematical Apparatus, and more will be added until the equipment is liberal.

A good Reference Library, and a small, but good, selection of miscellaneous books belong to the College, and more will be added every year.

POLITICS AND RELIGION.

That pupils may become loyal and devoted members of our great nation, it shall be one purpose of the school to instil into their minds correct ideas of true patriotism and the duties of good citizens. Patriotism is one thing, partisanship is another, and may be a very different. Whilst the former will be cultivated by all proper means, the latter will not be allowed in connection with the work of the school.

No culture is valuable that is not founded upon and accompanied by good moral character. By almost universal assent, moral character is believed to have its foundation in the cardinal principles of the Christian religion. These will ever receive the high respect to which they are entitled, but sectarianism in any form will not be tolerated. All forms of religious belief will be respected, and Catholic and Protestant, Jew and Gentile, will here find a hospitable welcome, and a home in which he will be treated as an honored guest.

THE SCHOOL YEAR

is divided into three terms of twelve weeks each, and begins on the first Monday in September and closes on the last Friday in May.

VACATIONS.

The College will be closed during the two weeks which contain Christmas and New Year's days, during one week following the second term, and upon all legal holidays.

CALENDAR FOR 1890-91.

Autumn Term opens Monday, September 1.
" " closes Friday, November 21.
Winter Term opens Monday, November 24.
" " closes Friday, February 27.
Spring Term opens Monday, March 9.
" " closes Friday, May 29.

Pupils should present themselves for classification on the morning of the first day of each term.

EXPENSES.

To pupils in the College Department there is no charge for tuition, but an annual entrance fee of $5.00 will be charged. The time of entrance will not modify this fee, but it will be the same for a portion of a year as for the whole.

Pupils in the Preparatory Department will be charged $5 per term of twelve weeks, and as it is more labor to bring a pupil up over lost lessons than to have him begin at the opening with his classes, the charge will be the same for a portion of a term as for the whole. Pupils in instrumental music will be charged $10.00 per term extra.

ALL FEES MUST BE SETTLED IN ADVANCE.

BOARDING.

On this point we can not give complete information at this time. The best plan is to get boarding in good private families. This can be had at from $16 to $25 per month. Some of our best students have rented rooms, furnished them plainly, and have boarded themselves. This can be done very cheaply. At Mesilla Park are several nice frame cottages of from three to six rooms each, which can be rented to good parties who will take care of them at from $10 to $15 per month. These offer good opportunities for families, or some member of a family, to take one of these cottages and make a home for several pupils from one neighborhood. By sharing the expense, it need not be heavy. The Board of Regents and the Faculty will do all that is possible to aid students in finding good homes at reasonable prices. The College Faculty will exercise a controlling care over all boarders, and will adopt and enforce such rules as they may find necessary for the best interests and protection of students.

WE SOLICIT THE PATRONAGE

of the citizens of New Mexico, and others who may desire a good school and a climate unsurpassed by any on the continent.

During the coming autumn term we shall experience some inconvenience from a lack of sufficient good room, but it will not be serious, and the new building will be ample and commodious. The equipment of the College is good, and we modestly, but confidently, believe that on merit alone we are justified in inviting the patronage and support of the people of New Mexico.

THE ATTRACTIONS OF LAS CRUCES AND VICINITY

are such as to highly recommend it to those seeking a place for residence or for educating a family. In addition to the bountiful agricultural products, the orchards and vineyards laden with choicest fruits, the broad expanse of alfalfa fields luxuriant in their verdure and their bloom, the Organ Mountains constantly in view, grand and beautiful, a source of varying and never-ceasing enjoyment, the climate is not excelled by that of any other region. An elevation of 3,800 feet; an atmosphere whose normal condition is dryness; a region where fogs are unknown, and where almost perpetual sunshine abounds; where summers are mild and free from the prostrating effects of regions farther north where humid atmosphere, almost constantly satuated, prevails; with perfect winters, with just about enough moisture to keep the dust settled; where the invalid, without extra protection, may always have dry feet; where days are bright and sunshiny, inviting to outdoor exercise, and the nights are cool all the year round, insuring restful sleep—these constitute an assemblage of conditions which makes it the paradise of those who would escape the rigors of Northern winters, and the resort of those who from any cause are threatened with pulmonary troubles.

This is not theory alone. In our midst we can point out numerous examples of the life-renewing powers of this climate,—hale, ruddy-faced boys and girls, rugged men and women, who came here fleeing from that fell destroyer, consumption, but now enjoy life with a reasonable expectancy of many years to come.

A WORD TO YOUNG MEN AND YOUNG WOMEN.

In the battle of life, there are few worthy and desirable triumphs that have not had their foundation in superior mental culture. As you value your future, educate yourselves. If you have passed the period of youth without educational advantages, it is not too late to begin now. A single year of good training now may be of incalculable benefit to you. Are you poor? Is it very difficult for you to secure the means to attend school? If so, remember that the greatest and best men and women the world has ever known have belonged to your class, and have successfully met and overcome the difficulties that now stare YOU in the face. We cordially invite you to endeavor to make it possible for you to enter the College. Come and stay with us, if but for one year, and you will not regret it.

REMEMBER, the best time to enter is on the first day of the first term. Enter with the determination to remain a full year and do faithful work. If you *can not* enter then, enter when you can.

THE COLLEGE

—OF—

AGRICULTURE AND MECHANIC ARTS

OF NEW MEXICO.

LOCATION:

Las Cruces, Dona Ana County, N. M.

CATALOGUE FOR 1890-91

AND ANNOUNCEMENTS FOR 1891-92,

SANTA FE, N. M.:
New Mexican Printing Company.
1891.

BOARD OF REGENTS.

L. Bradford Prince, Governor, *Ex-Officio.*
Amado Chaves, Superintendent of Public Instruction, *Ex-Officio.*
Robert Black, Silver City; term expires 1891.
Jayne A. Whitmore, San Marcial; term expires 1892.
Numa Reymond, Las Cruces; term expires 1893.
William L. Rynerson, Las Cruces; term expires 1894.
John R. McFie, Las Cruces; term expires 1895.

OFFICERS OF THE BOARD.

John R. McFie, President.
William L. Rynerson, Secretary and Treasurer.

FACULTY.

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Associate Professor of Mathematics.

C. H. TYLER TOWNSEND,
Professor of Entomology and Physiology.

A. J. WIECHARDT, M. E.,
Professor of Mechanical Engineering.

J. A. LOWE,
Professor of Modern and Ancient Languages and Instructor in Telegraphy.

Principal of Commercial Department and Teacher of Penmanship.

Arranged in the order in which they became connected with the College.

STUDENTS.

SOPHOMORES.

Frank Raymond Frazier	Gallup, N. M.
Samuel Steel	Las Cruces, N. M.

FRESHMEN—CLASS A.

Joseph Francis Bennett, Jr	Las Cruces, N. M.
John Milton Barnhart	West Newton, Pa.
May Winifred Bailey	Anthony, N. M.
Myrtle Bailey	Las Cruces, N. M.
Humboldt Casad	Mesilla, N. M.
John P. Casey, Jr	Las Cruces, N. M.
Ora Lee Cooper	Glorieta, N. M.
Fabian Garcia	Mesilla, N. M.
Leona Agnes Litsey	Las Cruces, N. M.
Ivah Rebecca Mead	Victoria, N. M.
Oscar Charles Snow	Mesilla, N. M.
William Hickman Skidmore	Las Cruces, N. M.
George Morgan Williams	Las Cruces, N. M.
Robert Walker Watson	Las Cruces, N. M.

CLASS B.

Robert Green Boone	Chicago, Ill.
Claude LaRue Herron	Victoria, N. M.
Charles Jacob Kezer	Las Cruces, N. M.
Ralph Elmo McFie	Las Cruces, N. M.
Lemuel C. McGrath	Lordsburg, N. M.
William Logan Rynerson	Las Cruces, N. M.
Robert Reay	Kingston, N. M.

PREPARATORY SCHOOL.

CLASS A.

Harry Bennett	Las Cruces, N. M.
John Bowman Bryan	Las Cruces, N. M.
Pearl Horner Bailey	Anthony, N. M.
Gertrude Casad	Mesilla, N. M.
Leroy Cooper	Glorieta, N. M.
Maggie May DeMier	Las Cruces, N. M.
Charles Pepper French	Las Cruces, N. M.
Hope Louise Gans	Las Cruces, N. M.
Henry Walter Hearn	Fairview, N. M.

William David Kinsey	Kingston, N. M.
Nellie Jane Martin	Mesilla, N. M.
Philip Wilder Mothersill	Engle, N. M.
Florence May Owen	Las Cruces, N. M.
Eleanor Maude Steel	Las Cruces, N. M.
Charles Abbott Whitmore	San Marcial, N. M.

CLASS B.

Catarino Armijo	Las Cruces, N. M.
Numa B. Buchoz	Las Cruces, N. M.
Roman Baca	Lincoln, N. M.
Nettie Bucklard	Pine Spring, N. M.
Laura Beckwith	Las Cruces, N. M.
Albina Coleman	Rincon, N. M.
James DeMier	Las Cruces, N. M.
Maggie French	Las Cruces, N. M.
Samuel Rogers French	Las Cruces, N. M.
Bonnie Vine Ruth Gans	Las Cruces, N. M.
Jose Gonzales	San Marcial, N. M.
Mary Katharine Herron	Victoria, N. M.
Herbert McGrath	Lordsburg, N. M.
Elizabeth May Savage	Las Cruces, N. M.
Lillie N. Smith	Las Cruces, N. M.

CLASS C.

David Cecilio Ames	Las Cruces, N. M.
Rolla Bailey	Anthony, N. M.
Tudie Bailey	Mesilla, N. M.
Minnie Bullard	Pine Spring, N. M.
George Bullard	Pine Spring, N. M.
Lola Jennette Bennett	Las Cruces, N. M.
Edward Spencer Buchoz	Las Cruces, N. M.
Charles Clarence Cowan	Kingston, N. M.
India May Bogardus	Las Cruces, N. M.
Isaias Chavez	San Marcial, N. M.
Eugene Edwin Casey	Las Cruces, N. M.
Charles William Cooper	Glorieta, N. M.
Eugene DeMier	Las Cruces, N. M.
John Fountain	Las Cruces, N. M.
George Lee Grover	Lake Valley, N. M.
John Henry Kezer	Las Cruces, N. M.
Esther Katharine Martin	Mesilla, N. M.
Henry Rynerson	Las Cruces, N. M.
Nathan Smith	Las Cruces, N. M.
Enrique Samaniego	Las Cruces, N. M.

COURSES OF STUDY AND DEGREES.

The Board of Regents, by charter, is empowered to confer such degrees as they may deem proper. But, as no class has been graduated, these have not been determined. They will, however, be equal in honor to those conferred by similar institutions.

Provisions are made for opening the following courses: Agriculture, Scientific, Civil Engineering, Mechanical Engineering, Classical Preparatory and Commercial.

The followlng outlines of these courses have been prepared. Experience will, no doubt, suggest some modification to these.

REQUIREMENTS FOR ADMISSION.

To enter the Freshman Class of the College, students must be able to pass a satisfactory examination in reading, spelling, writing, arithmetic, English grammar equivalent to what is contained in Reed and Kellogg's Graded Lessons and 143 pages of the Higher Lessons in English, or 143 pages of the One Book Course of the same Series; U. S. History equivalent to that contained in any good text book on this subject; Descriptive Geography, and Hygiene as required by the United States law, for the territories on this subject. All applicants for admission must furnish satisfactory evidence of good moral character. No person known to indulge in intoxicating drinks or to visit gambling houses will be received.

Students who can satisfactorily pass this examination are well equipped for either the ordinary duties of life or to enter successfully on the College Course. Without this foundation, they can not succeed in the College. Therefore, both in the interest of the student and the College, we shall insist that this preparation shall be thoroughly made.

COURSES OF STUDY.

During the coming year it is the intention to outline completely the following courses of study. As far as possible these will all be the same through the Freshman and Sophomore years, but during the subsequent years they diverge widely:

I. A course in Agriculture.
II. A Course in Science and Literature.
III. A Course in Mechanical Engineering.
IV. A Course in Civil Engineering.
V. A Classical Preparatory Course.
VI. A Commercial Course.

The following outlines subject to change, are approximately what some of these courses contain.

COURSE IN AGRICULTURE.

FRESHMAN CLASS.

Autumn Term.		Winter Term.		Spring Term.	
Algebra	5	Algebra	5	Algebra	5
Higher Grammar	5	Elementary Rhetoric	5	Spanish	5
Bookkeeping	5	Ancient History	5	Botany	5
Drawing	3	Drawing	3	Drawing	3
Elementary Agriculture	1	*Elementary Agriculture	1	*Horticulture	1
Elocution	1	Composition	1	Speaking	1

SOPHOMORE CLASS.

Plane Geometry,		Plane Geometry 6 weeks,		Trigonometry 6 weeks,	
Spanish,		Medieval and Modern History	5	Surveying 6 weeks,	
Physiology,		Chemistry	5	English Literature	5
each five hours per week		Drawing	3	Chemistry	5
Drawing	3	Agriculture and Horticulture	1	Drawing	3
Agriculture	1	Composition	1	Horticulture	1
Elocution	1			Speaking	1

JUNIOR CLASS.

Surveying and Levelling	5	Geology	5	Botany	5
Zoology	5	Physics	5	Entomology	5
Physics	5	Agricultural Chemistry	5	Civics	5
Stock	4	Theses	1	Horticulture	4
Theses	1			Theses	1

SENIOR CLASS.

Psychology	5	Moral Science	5	Political Economy	5
Literature	5	Astronomy	5	Veterinary Science	5
Landscape Gardening	5	Meteorology	5	Literature	5
Agriculture	4	Horticulture	4	Orations	1
Orations	1	Orations	1		

COURSE IN CIVIL ENGINEERING.

FRESHMAN CLASS.

Autumn Term. Algebra, Higher Grammar, Natural Philosophy—omitting Electricity and Light; Book Keeping, Drawing, (three hours per week); Elocution and Lectures in Elementary Agriculture,—each [one hour per week.

Winter Term. Algebra, Rhetoric, Ancient History, each five hours per week, Composition one hour per week, and lectures on Agriculture one hour per week for the first half of the term and lectures on Horticulture the remaining half.

Spring Term. Algebra, Spanish, Botany, each five hours per week, Drawing three hours per week, and lectures on Horticulture, and Speaking each one hour per week.

SOPHOMORE CLASS.

Autumn Term. Plane Geometry, Spanish, Physiology, each five hours per week, Drawing three hours per week, and Elocution and Agriculture each one hour per week.

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*For 6 weeks.

Winter Term. Plane Geometry six weeks, and Conic Sections six weeks, Medieval and Modern History, and Chemistry, each five hours per week, Drawing three hours per week, and Composition, and Lectures on Agriculture and Horticulture, each one hour per week.

Spring Term.. Trigonometry six weeks, English Literature, Chemistry, each five hours per week, Drawing three hours, and Speaking and Horticulture each one hour per week.

JUNIOR CLASS.

Autumn Term. Surveying and Levelling, Analytical Geometry, Geology and Zoology, each five hours per week.

Winter Term. Higher Algebra, Analytical Geometry six weeks, Calculus six weeks and Physics, each five hours per week, Drawing three hours per week.

Spring Term. Higher Algebra, Solid and Spherical Geometry and Spherical Trigonometry, and Entomology.

SENIOR CLASS.

Autumn Term. Analytical Mechanics, Descriptive Geometry, Drawing, Engineering, (General properties of building materials, Masonry, foundations and Farming.)

Winter Term. Analytical Mechanics, Mathematical Astronomy, Drawing, Engineering, Strength of materials, Strains, Roofs, Common Roads.)

Spring Term. Drawing, Literature, Engineering, (Bridges, Railways, Canals.) Preparation of thesis.

MECHANICAL ENGINEERING.

This course aims to educate young men of ability to undertake and successfully work out the ordinary engineering problems. The student's time will of necessity be devoted very largely to technical studies, but enough literary is included to give as broad and liberal an education as the limited time of the course will permit. The leading subjects taught in this course are: drawing, shop practice, mechanical laboratory, and theoretical engineering.

Drawing. Under this head it is proposed to teach: free-hand, istrumental, perspective, isometrical, tracing, blue printing, elementary mechanical, elementary machine design, high-speed steam engine design, and machine design from specification.

Shop Practice. This part of the course is intended to make the student familiar with the ordinary shop methods, by giving instruction in the trades of the wood turner, carpenter and joiner, blacksmith, moulder and founder, pattern maker, and machinist.

Mechanical Laboratory. The work in the Mechanical Laboratory will consist of calibration of instruments, test of engines, boilers, pumps, and the strength of materials.

Theoretical Engineering, will cover instruction in such subjects as thermodynamics, strength of materials, analytical mechanics, graphics, and kinematics.

The arrangement of these by terms and years has not been made yet.

COMMERCIAL COURSE.

This Course can be completed in one year's time. In addition to regular recitations in English and Spanish, students in this Course will give their whole time to Bookkeeping, Business Practice, Banking, Commercial Law, Commercial Arithmetic, and Penmanship. Thoroughness in all the branches will be secured.

To enter upon this Course, students must have graduated from the Preparatory School, or must pass satisfactorily an examination on the branches taught in that school. To attempt to master the science of accounts without this foundation is folly, and, under no consideration, will students be permitted to enter upon the Commercial Course without adequate preparation.

On a satisfactory completion of the Course a certificate will be given.

CLASSICAL PREPARATORY COURSE.

Although this is not a Classical College, the Regents deem it wise to organize a Course in which students can make the preparation necessary to enter any of the Eastern Colleges. This course is optional. The only conditions being that students must decide upon entering the College whether they wish this course or not. When so decided it is expected that no change will be made. Students who decide to prepare for the regular Classical Course of some Eastern College will take both the Latin and the Greek. Those who prepare for what is called the Latin-Scientific Course, will take Latin only. In either case, the time not consumed in the studies necessarily belonging to this preparation, will be used by the student in such other literary and scientific studies as will at all times be found in the other Courses of this College.

The requirements for admission to the Colleges mentioned are not strictly uniform, but they are not far from the following:

Latin. Grammar, including Prosody; Latin Prose Composition; Caesar, four books of the Gallic War, or its equivalent; Virgil, six books of the Aeneid; Cicero, two to six orations.

Greek. Grammar and Greek Composition; Xenophon, Three books of the Anabasis; Homer, two books of the Iliad.

Mathematics. Arithmetic; Algebra, through Quadratics; Plane Geometry.

English. Grammar, Rhetoric, and Analysis. Students must be able to write, spell, punctuate, and capitalize accurately, and to critically examine some of the standard English authors.

Without, at present, arranging these studies by terms and years, suffice it to say that we shall give students who desire the preparation indicated, an excellent opportunity to receive it.

THE SPANISH LANGUAGE.

The relations existing between the United States and the Spanish-American States and Provinces, are already very important. We believe that these relations are to become, at no distant date, much more important. To Americans, commercially speaking, no other modern language possesses a value equal to the Spanish. Therefore, besides the equitable portion of time assigned to this branch in the regular Courses of study, students who promise well in this branch will be permitted to elect to pursue the Spanish to a higher degree of proficiency and omit such other branches of the regular Course as they and the Faculty may agree upon.

TELEGRAPHY.

The class in telegraphy will be taken through a course of training in practical telegraphy and Railroad book-keeping which will fit those who complete the work to take charge of a station, or to enter the employ of the Western Union Telegraph Co. None but those who have been graduated from the Preparatory School, or who can satisfactorily pass the examinations required for such graduation, will be admitted to this class.

INSTRUMENTAL MUSIC---PIANO.

COURSE OF STUDY.

First Term. Urbach's Instructor, Touch and Technic, by William Mason Finger Exercises, Book I, from Kohler, Loeschorn, or Czerny.

Second Term. Urbach continued; Mason continued; Finger Exercises continued; Book I, and II; Easy Selections.

Third Term. Urbach continued; Mason continued; Book II, of Exercises continued; being Book I, of Cramer's Studies; Book I, of Kuhlau's Sonatas.

Fourth Term. Urbach completed; Mason continued; Cramer and Kuhlau continued; Selections of medium difficulty.

Fifth Term. Mason, Cramer, and Kuhlau continued; Beethoven's Sonata, p. 49, No. 1 or No. 2.

Sixth Term. Mason continued; Book I, of Cramer's Studies completed; Book I, of Kuhlau's Sonatas completed; Begin Book II, of Cramer's Studies, also Book II, of Kuhlau's Sonatas; Difficult Selections.

Higher work will be provided for those who desire it.

Recitals. A musicale will be given at the end of each term, to show the progress made by the pupils, and also to give them an opportunity to play in public.

PRACTICAL AGRICULTURE AND HORTICULTURE.

In this department of the Course of Study the purpose is not to make complete farmers, fruit-growers, and stock-breeders, full-fledged and proficient in all lines of practice; but men, intelligent citizens, with correct, rudimentary knowledge so well established that it may serve them as a sure and infallible groundwork for future acquirements and future development. Agriculture being the basis of all the industrial pursuits, a wide range of instruction on both general and special subjects is absolutely necessary.

In the course submitted we recognize the facts that education is always a help to the farmer; that he may be more successful as a farmer after a thorough training in any line of study—classical, scientific, or technical—the education only making more effective the powers of his mind; and that the best years of his life for college work are the best for acquiring a business knowledge and training.

The course proposes to furnish to all who wish to be farmers, in the true sense of the term, an opportunity to inform and acquaint themselves with the many scientific questions and teachings which their work daily brings before them, and to assist them in working out many problems yet unsolved.

During the Freshman and Sophomore years a series of lectures on the Elements of Agriculture and of Horticulture will be given, the scope of which will include the history and development of Agriculture as an art and a science, its relations to other arts and sciences and to our national prosperity; on farm crops, planting, cultivating, and harvesting; stock, manures, fertilizers, buildings, fences, implements, accounts, buying and selling.

Under the head of Horticulture the lectures will include pomology vegetable gardening, floriculture, and seed growing.

During the Junior year lectures will be given on the various breeds of cattle, horses, sheep, swine and poultry; soils, seeding, irrigation, stock-feeding for flesh and milk.

In Horticulture—budding, grafting, layering, prunning, care and cultivation of fruit trees, vines, and small fruits.

During the first and second terms of the Senior year, rotation of crops, drainage, cereals, their improvement by selection, crossing and care, principles of feeding, milk, butter and cheese-making. In Horticulture—landscape gardening, ornamentation with trees, shrubs, flowers, lawns, windbrakes, and the effects of trees on the climate, etc.

BOTANY.

Elementary Botany. In the spring term of the Freshman year the organs of plants are studied first, most of the time being devoted to Phænogamic

Botany. The subject of Cryptogamic Botany will be briefly studied in the latter part of the term, as well as some of the more prominent points of Physiological Botany.

The classification of plants and their uses are other points which will receive attention. During this term it will be a part of the required work that each student shall analyze a number of flowers, as well as prepare some few specimens for the herberium. Each student is required to provide himself with a pocket lens, needles, and other apparatus necessary for the analysis of flowers.

Gray & Coulter is the text book in use.

Advanced Botany. In the spring term of the third year two hours daily are devoted to the study of Physiological Botany. For this purpose the College is supplied with Bausch and Lomb's compound "Model" microscopes, with magnifying power of from 50 to 300 diameters, as well as with all apparatus, reagents, books of reference, etc., necessary for the study of the minute structure of plants.

The method of work will be the study of the simple vegetable cell, its contents, various modifications, etc., from the simplest to the most complex forms of plant life.

Some of the time will be devoted to the study of smut, rust, and other parasitic cryptogams, thus introducing the student to the plants which are damaging to the various valuable members of the vegetable kingdom. The intention is not to attempt anything more than a good foundation for future work, but just to touch upon the general and more important points of microscopic botany, and so give an outline view of the subject.

Opportunity for more advanced work in this department will be given if desired by students, but special arrangements must be made for it.

Bessie's Botanics, and Arthur Barnes', & Coulter's Handbook of Plant Dissection will be used as guides in this work.

The best books of reference upon the subject will be at the command of students in this department, as well as the best periodicals published.

CHEMISTRY.

During the fall term of the Sophomore year students will study the theory of Chemistry, acquainting themselves with symbols, valence, atomic weights, methods of writing reactions, etc., assisted by occasional recitations in the laboratory and many experiments before the class.

Most of the time will be devoted to the study of inorganic chemistry, although organic chemistry will receive some attention.

In the winter term students will spend two hours daily in the laboratory where each will be supplied with a full list of reagents and all necessary apparatus for the analysis of all common compounds. All the various methods of chemical separations will thus be learned by experience, and the examinations will consist of the analysis of several substances of which the student knows nothing more than what he may see, feel, taste, or smell, and of which he must find out all that may be known. Text-books: Remsen's Briefer Course, and Laboratory Manual, by Dennis.

The spring term of the Junior year will be devoted to the study of Agricultural Chemistry and Mineralogy. This will include the chemistry of the farm, the formation and composition of soils, the analysis of soils, manures, feed-stuffs of all kinds, and all the various operations on the farm into which chemistry enters.

In Mineralogy the student will become acquainted with the physical and chemical characteristics of the more common minerals by actual examination and blow-pipe analysis of the minerals themselves.

The chemical dapartment will be supplied with a first-class department library, as well as with the best periodicals published in the English language.

ENTOMOLOGY.

The study of this science will be divided into three topics: anatomy and physiology; systematic Entomology, or classification of insects; natural history and metamorphosis with special reference to Economic Entomology, Insects injurious to agriculture and horticulture and means to be used against them. These subjects will be presented in the form ot lectures to extend over one term. Each student will be afforded practice in the use of characters employed in classification and will be required to identify several insects in each order by means of analytical tables. In addition, each student will be required to make a collection of a certain number of species in any one or more orders, and will be instructed in the proper methods of mounting. Instruction will likewise be given in the use of the miscroscope and the manipulation of apparatus. A hand lens of good field and moderate power, and another of higher power will be necessary in this duty.

ZOOLOGY.

This science will be treated under the heads of: Comparative Anatomy; Systematic Zoology, or Classification according to structure and embryonic development; Habits and geographical distribution of animals. Practice in dissection will be so planned as to demonstrate homologies in the anatomy of the vertebrates, and students will be required to prepare mounted slides of tissues for the miscroscope. Practice will also be given in the classification of species, and some time will be devoted to the consideration of Economic Zoology. The entire matter will be presented in the form of lectures.

PHYSIOLOGY.

This study will be made to embrace Human and Comparative Physiology. It will be pursued with the aid of a text book on Physiology, and information supplementary to that contained in the text book. bearing on Comparative Physiology will be delivered to the class in the form of lectures during the recitation hour. The subject matter of the recitations will be illustrated by means of charts, models, and a mounted human skeleton. The students will have the opportunity to examine prepared slides of various tissues of the human body under the microscope, and will be given a chance to test their skill in the preparation of new slides from the tissues of the lower animals.

DRAWING.

During the year, three classes in the Preparatory School received instruction in Free-hand Drawing. The most advanced class completed the first three books of Prang's Shorter Course in Form Study and Drawing, supplemented by exercises from models and copies.

The A Freshman Class of the College Department, completed Prang's Geometric Problems, supplemented by problems from Morse's Second Book of Mechanical Drawing. The construction of the ellipse, parabola, and hyperbola was studied, and exercises were given in the use of the drawing board, T square, color, etc. The latter part of the year was devoted to the study of Free Hand Drawing—three lessons per week being given. The B Freshman class completed the work given in the Geometric Problems.

Free Hand Drawing will be required of all students in the second and third years of the Preparatory School.

MILITARY TACTICS.

The Board of Regents is in correspondence with the Secretary of War in reference to the detail of an officer to take charge of this department, and we hope to be able soon to announce that satisfactory arrangements have been completed.

PREPARATORY SCHOOL.

The facilities in New Mexico for obtaining an elementary education having heretofore been somewhat limited, it has been found necessary to connect with the College a Preparatory School. It is the intention, by regularly raising the standard of this school, to gradually drop the lower classes in it and ultimately, to either retain but the higher classes, or to abandon the school entirely. This will be the case when the Public Schools of New Mexico do what all the citizens have a right to demand that they should do. In the mean time, it is but proper that we should say that the Preparatory School is one of excellence. It is in the same building with the College classes: It has the frequent instruction of the various Professors in the College, in the way of lectures and other exercises; it has for Principal an experienced educator who is assisted by none but trained teachers.

TEXT BOOKS.

Arithmetic—Thomson's.
Grammar—Reed and Kellogg's.
Geography—Barnes'.
History—Eggleston's.
Reader—Appleton's.

Hygiene—Barnes'.
Drawing—Prangs.'
Spelling—Reed's.
Writing—Eclectic.

COURSE OF STUDY.

B CLASS.

AUTUMN.	WINTER.	SPRING.
Arithmetic, pg. 60 to 136. Grammar, Les. 1 to 40. Elementary History. Fourth Reader, Finish. Spelling, Les. 1 to 40. Drawing, Bk. I. Writing. Declamation (1).	Arithmetic, pg. 136 to 188. Grammar, Les. 40 to 65. Geography, pg. 1 to 97. Fifth Reader. Spelling, Les. 40 to Part II. Drawing, Bk. I. Writing. Declamation, (1).	Arithmetic, pp. 188 to 234. Grammar, Les. 65 to 89. Geography, complete. Fifth Reader. Spelling, Bk. II. Drawing, Bk. II. Writing. Declamation, (1).

A CLASS.

Arithmetic, pg. 234 to 270. History, pg. 1 to 197. Grammar, Les. 89 to end of 1st. Book. Spelling, Part III. Drawing, Bk. III. Reading, Fifth. Writing. Declamation, 1.	Arithmetic, 270 to 334. History, complete. Grammar, Les. 15 to 55. Spelling, Part IV. Reading, Fifth. Drawing, Bk. IV. Writing. Declamation, 1.	Arithmetic, complete. Hygiene. Grammar, Les. 55 to 85. Spelling, (words of all subjects studied). Reading, 4 Composition, 1. Drawing, Bk. V. Writing. Declamation, 1.

A WORD ON PREPARATION.

Students and patrons often importune teachers to admit applicants to advanced standing, even though it is evident that the parts under consideration is deficient in preparation. Teachers, being desirous of pleasing when they can, often yield to these importunities and grant the supposed favor. Long experience convinces us that all parties concerned make a great mistake. Pupils enjoy what they can comprehend, and dislike what is beyond their ability. Education is a growth. It can be forced abnormally with no better results than the young oak can. Good preparation insures good progress, happy times, and satisfactory results. Deficient preparation breeds discouragement, stimulates irritability, makes the pupil dissatisfied with himself, his teachers, and the school, and in the majority of cases he leaves school and spends his life ignorant and uncultivated. Therefore, please be anxious and willing to patiently prepare before seeking admission to the Freshman Class.

To guide students somewhat in their preparation the following suggestions are offered:

In Arithmetic, pay particular attention to Greatest Common Divisor, Least Common Multiple, the fundamental processes in Common and Decimal Fractions, especially Division of Decimals; Percentage, especially True and Bank Discount; Proportion, Square and Cube Roots.

In Grammar, learn the difference between simple, complex, and compound sentences; analyze each kind, and know well the difference between the object and the attribute complements; be able to use capitals and punctuation marks in simple exercises, and be more anxious to use language correctly than to recite definitions and rules.

In United States History, get clear notions of the Discoveries, Explorations, Early Struggles of the Colonists, Revolutionary War—its Causes and Results, Principal events of the Several Administrations; Causes, Events, and Results of the Civil War, and important events that have transpired since. Learn thoroughly important facts rather than a minute detail of minor matters.

By all means strive to be a good speller. An experienced educator was accustomed to say: "It is no honor to be a *good* speller, but it is a great disgrace to be a *poor* one." Poor spelling has blighted many a good prospect.

EQUIPMENT.

The tract of land on which the College buildings stand contains 250 acres; one hundred of the finest bottom land under irrigation, and the remainder mesa land. The whole will be used for experimental purposes in connection with the Experiment Station.

The buildings consist of (1) an elegant two story and basement brick structure with stone trimmings and massive stone foundation. It contains thirteen beautiful and commodious rooms and an elegant hall capable of seating a large audience. The building is heated throughout by means of hot air furnaces. These rooms are furnished well; blackboards from the slate quarries of Pennsylvania; students' desks of solid antique oak; library furniture from details kindly furnished by W. B. Wickersham, Secretary of Chicago Public Library; chemical, entomological, and mechanical laboratories fitted up with most approved appliances; water throughout the building (2) Outbuildings and horse sheds and feed rooms sufficient to comfortably house forty horses. These are used to accommodate the horses of those students who ride to the school. (3). A large and commodious ware house for machinery, etc.

The appliances are: A beautiful library and reading room containing a fine selection of books and several sets of cyclopaedias and different dictionaries, a large number of the leading magazines, scientific, literary, agricultural, and horticultural papers, and many of the Territorial papers, kindly furnished to the institution; extensive chemical and physical apparatus; numerous microscopes of various kinds; imported models, a skeleton, and charts and maps for the study of human and comparative physiology; a surveyor's outfit of transit, level, etc., for student's use, etc., etc.

To all of these additions are being constantly made.

EXPENSES.

All students who are competent to enter the Preparatory School, (for requirements see heading, "Preparatory School,") are admitted on the payment of an Entrance Fee of $3.00 per annum. Text Books are loaned to all who desire to secure them thus. To those who prefer to own them, they will be furnished at cost.

Students who deface or unreasonably wear the books loaned will be required to buy them.

Students in Instrumental Music are charged $10.00 per term of twelve weeks. If they require the use of the instrument for practice, they are charged $2.00 per term additional.

Students in Chemistry are charged for actual breakage of apparatus, and for the chemicals used. This has amounted to about $5.00 per year.

Thus, it is seen that the expenses at the College are very light, not equal to the cost of text books in most schools.

All College Fees must be paid in advance.

BOARDING.

As yet, the College can do nothing at furnishing board. Students and teachers have heretofore found board in private families at reasonable rates, and it is hoped and believed that they will continue to find ample accommodations of this kind. It is the universal testimony of educators that homes in private families are the very best for students. Some take rooms and board themselves at reduced cost. This often works very satisfactorily.

COST OF BOARD.

During the past year the price of board with room has been from $16 to $20 per month. Occasionally, where one person required a room alone, it has been $25.00 per month. Where students propose to furnish their own rooms they should provide for this before leaving home. The freight on such articles as may be needed and can generally be spared from home is very light. To either buy or rent is not economical.

Within reach of the College building, are houses for rent at reasonable prices. Some families have resided in these during the school year on purpose to give their children an opportunity to attend College. Where practicable, this plan is recommended. Perhaps, no other way is so satisfactory.

LABOR FOR STUDENTS.

Although we do not recommend any student to depend entirely on earning sufficient to pay his expenses through College, it is true that some young men have more than made the College expenses during the past year. These have always stood highest in scholarship and deportment. About the building and on the farm, is always work to be done, and the policy is to give it to students in preference to any one else. There can be no question that those students who are willing to work during their hours for recreation, become the men and women who move the world.

POLITICS AND RELIGION.

That pupils may become loyal and devoted members of our great nation, it shall be one purpose of the school to instil into their minds correct ideas of true patriotism and the duties of good citizens. Patriotism is one thing, partisanship is another, and may be a very different. Whilst the former will be cultivated by all proper means, the latter will not be allowed in connection with the work of the school.

No culture is valuable that is not founded upon and accompanied by good moral character. By almost universal assent, moral character is believed to have its foundation in the cardinal principles of the Christian religion. These will ever receive the high respect to which they are entited, but sectarianism in any form will not be tolerated. All forms of religious belief will be respected, and Catholic and Protestant, Jew and Gentile, will here find a hospitable welcome, and a home in which he will be treated as an honored guest.

THE ATTRACTIONS OF LAS CRUCES AND VICINITY.

Are such as to recommend it highly to those seeking a place for residence or for educating a family. Its agricultural products are numerous and varied. The orchards and vineyards are laden annually with choicest fruits. The broad expanse of alfalfa fields are luxurious in their verdure and their bloom; and the Organ mountains, grand and beautiful, constantly in view, are a source of varying and never-ceasing enjoyment. The climate is not excelled by that of any other region. The valley has an elevation of 3,800 feet, and an atmosphere whose normal condition is dryness. Fogs are unknown and almost perpetual sunshine abounds. The summers are mild, and free from the prostrating effects of regions farther north where humid atmosphere nearly saturated prevails. The nights are cool, even in midsummer, insuring restful sleep. The winters are perfect. The days are bright and sunshiny, inviting to out-door exercise. Just about enough moisture falls to keep the dust settled, and the invalid, without extra protection, can nearly always have dry feet. This assemblage of conditions makes it the paradise of those who would escape the rigors of northern winters, and the resort of those who from any cause are threatened with pulmonary troubles.

This is not theory alone. In our midst we can point out numerous examples of the life-renewing powers of this climate—hale, ruddy-faced boys and girls, rugged men and women, who came here fleeing from that fell destroyer, consumption, but now enjoy life with a reasonable expectancy of many years to come.

A WORD TO YOUNG MEN AND YOUNG WOMEN.

In the battle of life, there are few worthy and desirable triumphs that have not had their foundation in superior mental culture. As you value your future, educate yourselves. If you have passed the period of youth without educational advantages, it is not too late to begin now. A single year of good training now may be of incalculable benefit to you. Are you poor? Is it very difficult for you to secure the means to attend school? If so, remember that the greatest and best men and women the world has ever known have belonged to your class, and have successfully met and overcome the difficulties that now stare you in the face. We cordially invite you to endeavor to make it possible for you to enter the College. Come and stay with us, if but for one year, and you will not regret it.

REMEMBER, the best time to enter is on the first day of the first term. Enter with the determination to remain a full year and do faithful work. If you *can not* enter then, enter when you can.

CALENDAR FOR 1891-92.

Examination of new students for the purpose of classification will be held on Friday, September 4, at 9 a. m. All applicants for admission, and all former students who were not present at the regular term examination, and those who failed to make the grade and now desire to make another effort, should present themselves promptly at 9 a. m.

Autumn Term opens Monday, September 7, 1891.
Autumn Term closes Friday, November 27, 1891.
Winter Term opens Monday, November 30, 1891.
Winter Term closes Friday, February 26, 1892.
Holiday Vacation from Thursday, December 24. to Monday, January 4.
Spring Vacation from Friday, February 26, to March 7, 1892.
Summer Term opens Monday, March 7, 1892.
Summer Term closes Friday, May 27, 1892.
All legal holidays will be observed.

It will be seen that the school year consists of thirty-six weeks, exclusive of vacations, divided into three terms of twelve weeks each.

Colleges of Agriculture and the Mechanic Arts owe their existence to the correct sentiment firmly entrenched in the intelligent public mind, that best results are most economically secured when well developed muscle is guided by educated intellect.

This thought took practical shape in the United States by an Act of Congress, approved July 2, 1862, entitled: "An Act donating public lands to the several States and Territories which may furnish colleges for the benefit of agriculture and the mechanic arts." The bill was introduced by the Hon. Justin S. Morrill, of Vermont, himself a successful agriculturist.

Without reciting this act in full, its provisions include the following:

Section 1 donates to each *State*, for the endowment of an Agricultural College, 30,000 acres of land for each Senator and Representative in Congress.

Section 3 provides that the States shall pay all expenses of selection of lands, taxes, etc., so that the entire proceeds shall be applied without diminution to the purposes mentioned in the act.

Section 4 provides for the safe investment of the proceeds from sales of lands to constitute a perpetual fund, which shall remain forever undiminished for the "endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies. and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Section 5 provides the terms on which States may avail themselves of the benefit of this act. They must give their assent; must make good any losses of the fund; no portion of it can be used for purchase, erection, or repair of any building; an annual report must be made of progress made, etc.

The other portions of the act relate to the carrying out of the provisions cited above.

It will be observed that the benefits derived from this act apply to States only. Territories are debarred. Under its stimulating influence many of the States either established colleges of "Agriculture and the Mechanic arts," or attached such department to existing institutions of learning. Some of the States in an unbusiness-like way, almost squandered this magnificent endowment. Others carefully managed it. A large State with, say, twenty representatives in Congress, received 600,000 acres of land or its equivalent in scrip. Kansas with three representatives should have received 90,000 acres, but, from some reason she received about 83,000 only, and yet, by her careful management, she has, from this source, a productive endowment of over $500,000.

The next decided step in the progress of these institutions took shape in the passage by Congress of an act approved March 2, 1887, familiarly known as "The Hatch Act," entitled: "An Act to establish Agricultural Experiment Stations in connection with the colleges established in the several States under the provisions of an act approved July 2, 1862, and of the acts supplementary thereto?"

Again, without quoting the act in full, I present the important points in it. It contains the following:

"In order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established a department to be known and designated as an "Agricultural Experiment Station."

"It shall be the object and duty of said Experiment Station to conduct original researches, to verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisible, having due regard to the varying conditions and needs of the respective States or Territories."

The act requires the publication of bulletins for the information of the people concerning experiments made. To defray the expenses of this "department" of the college, Congress apropriates annually $15,000. The benefits of this Act are received by Territories as well as by the States.

The next step in Congressional legislation in this direction is indicated by an Act of Congress approved August 30, 1890, for "the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts." The venerable Senator Morrill, in his eightieth year was the author of this bill. It provides, from the sale of public lands, for the benefit of these colleges, an additional $15,000 for the year closing June 30, 1890, and increases said amount by $1,000 each year until the annual appropriation reaches $25,000, at which sum it remains.

The uses to which said appropriation must be applied are as follows: "To be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction."

So much for national legislation in the interest of these colleges.

The Territory of New Mexico, by Acts of the Legislature, has accepted the terms and the conditions of the Congressional Acts, and created the College of Agriculture and Mechanic Arts and located the same at Las Cruces. Among other provisions of said Act are: "The College shall be non-sectarian in character and devoted to practical instruction in agriculture, mechanic arts, natural sciences connected therewith, as well as a thorough course of instruction in all branches of learning bearing upon agriculture and other industrial pursuits."

"The course of instruction of the college hereby created shall embrace the English language, literature, mathematics, philosophy, civil engineering, chemistry, animal and vegetable anatomy and physiology, the veterinary art, entomology, geology, political, rural, and household economy; horticulture, moral philosophy, history, mechanics, and such other sciences and courses of instruction as shall be prescribed by the regents of this institution of learning."

The field which the college is supposed to occupy is pretty well defined by the legislation creating it. The Territory is the second party to the contract by which the college receives the national aid, and is under sacred obligation to use the funds for the purposes stipulated and for no other. This does not prohibit the Territory from connecting or associating with said institution any department within the Territorial legislation, provided funds are used according to the terms of the appropriation.

The whole tenor of the national legislation is to endow an institution for the special "liberal and practical education" of the laboring classes in the "various pursuits and professions of life" in contradistinction to those preparing for professional life. 'The leading object shall be to teach such branches of learning as are related to agriculture and the mechanic arts, without excluding other scientific and classical studies and including military tactics." Military tactics and the other branches named are compulsory. The other "classical and scientific studies" are permissive.

Whether correct or not, there has long been a deeply-seated conviction in the public mind that classical studies, including the so-called "dead languages," are not so directly conducive to success in the industrial world as the sciences and the modern languages are.

The aid furnished bv the government is so furnished on condition that the State or Territory shall supply suitable buildings. This is right. A State that will not do this is not worthy the endowment. Most of the Agricultural Colleges receive large annual appropriations from their respective States. As an example, Indiana has furnished Purdus University with buildings to the amount of $300,000.

The field assigned to Colleges of Agriculture and the Mechanic Arts is a broad one and embraces those great subdivisions of theoretical and applied science, an acquaintance with which has already given to American industry its great triumphs in utilizing the forces of nature. It is sufficiently-great in extent and grand in its purpose to gratify the pride and the ambition of any cultured and enterprising people. In the language of Dr. Gregory, Ex-Regent of the great Industrial University of the great State ot Illinois: "The problem is to unite scientific and art education, to make true scholars while we make practical artisans, and to do this, not in one or two arts only, but in the whole round of human industries."

The foundation of the work proposed to be done is laid in a theoretical and practical knowledge of the great sciences,—mathematics, physics, chemistry, botany, geology, and mineralogy—in a ready, fluent, and practical use of the English language, and in such an acquaintance with the modern languages—chiefly for commercial purposes—as the special wants of the particular college may suggest. Fortunately for New Mexico, the similar institutions already established in the older States have virtually settled the lines of work to be done.

The purposes and the range of these institutions are such as to give to young men and young women a culture as deep and as varied as those institutions that train more especially for the professions. At the same time, this culture is of a much more practical nature—the word "practical" being used in its popular sense. It is an erroneous idea to suppose that the intention is to have students serve a full apprenticeship in the "various pursuits and professions in life." It is rather to give a knowledge of the sciences upon which these rests, and to so train them in the practical manipulation of the machinery and implements used in them, that the graduate shall be prepared to enter upon the further pursuit of his chosen calling with a training that fits him for it and insures to him early success.

Underlying all these various pursuits must be substantially the same foundation. They must all rest upon a thorough knowledge of the same elementary mathematics, science, history and geography, and an intimate and practical knowledge of the English language. No matter what may be the subsequent line of special study, these must form the basis, and the differntiation must come after the acquirement of these.

Just as upon the several branches of a vigorous fruit tree, different and related varieties may be grafted and successfully grown, each drawing its support through the same trunk from the same source, so the several courses of study fitting men and women for the industries of life, are grafted upon the thorough training given in the Preparatory school. Among these courses may be named the following: Course in Horticulture and Agriculture, containing much science practically applied, and less of mathematics, and fitting students to scientifically enter upon and follow that first and most ennobling calling—the intelligent cultivation of the soil; Course in Mechanical Engineering, containing a preponderance of drawing and applied mathematics, a moderate amount of science, and a practical acquaintance with the tools of the carpenter shop, the forge, and the foundry, and fitting young men to engage in great mechanical enterprises; a Course in Civil Engineering, similar in some respects, in the theoretical part, to that of Mechanical Engineering, but leading to an entirely different profession in life. The Civil Engineer will locate great lines of railroad, theoretically tunnel mountains, devise plans for extracting the precious metals from the bowels of the earth, span wide and deep streams with magnificent bridges; in ship canals and ship railroads, map out a highway for all the nations of the world. The Mechanical Engineer directs the artisan as he constructs the massive engine and applies its power to the overcoming of great resistance in the performance of an infinite variety of operations. He successfully combines the principles of mechanics to lighten the toil of weary mankind; the Course in Science, comprising a well balanced proportion of mathematics, literature, English, and science, gives no strong predilection towards any special pursuit in life, but makes the well-rounded man—the one for general purposes, so to speak; the Course in Literature and Art, embracing less of mathematics and science, much more of English, and an acquaintance with the literature and art of all ages, brings the student into contact with the most cultured mind of the present and the past, enables him to enjoy the companionship of the cultured, and makes him a wise counselor in the affairs of citizenship; the Commercial Course, not necessarily so extended in its scholarly requirements, fits young men and young women for important and responsible positions of trust. Without rising to the dignity of a "Course," several branches of industry should have their rudiments scientifically and practically taught—such as telegraphy, stenography—or its successor in art, whatever that is to be—type-setting and the manipulation of the furniture of the printing press and office, and, for young ladies, practical and scientific training in domestic and household economy. Add to these "instruction in military tactics," and the opportunity for such students as desire it—for obtaining a deeper knowledge of the "other classical and scientific studies," and the "College of Agriculture and the Mechanic Arts" at once becomes an institution so broad and practical in its training as to justly command the respect and support of all good people.

Underlying all, above all, and including all, must be the character of the student. Genuine success in life can be obtained only through the possession of a noble moral character. "Character is what a man is." "Character is a bundle of habits." The man must *be* virtuous; must *be* true; must *be* good. His habits are the indices of what he *is*. Without this pure and beautiful environment, no amount of scholastic or practical culture can bring greatness. Every effort, no matter how honorable or commendable in itself, will eventually terminate in most bitter disappointment. Hence all colleges should endeavor, by patient, persistent means, to build in the student this most essential of all acquirements—the foundation—the key-stone of the arch—the crown of the pinnacle—the sum of all—a good moral character.

NEW MEXICO

College of Agriculture

AND

Mechanic Arts.

LOCATION:

Las Cruces, Dona Ana County, New Mexico.

CATALOGUE FOR 1891-92.

AND ANNOUNCEMENTS FOR 1892-93.

LAS CRUCES, N. M.
RIO GRANDE REPUBLICAN.
1892.

BOARD OF REGENTS.

L. Bradford Prince, Governor, *Ex-Officio.*
Amado Chaves, Superintendent of Public Instruction, *Ex-Officio.*
Robert Black, Silver City; term expires 1892.
Numa Reymond, Las Cruces; term expires 1893.
William L. Rynerson, Las Cruces; term expires 1894.
John R. McFie, Las Cruces; term expires 1895.
Jayno A. Whitmore, San Marcial; term expires 1896.

OFFICERS OF THE BOARD.

John R. McFie, President.
William L. Rynerson, Secretary and Treasurer.

FACULTY AND OTHER OFFICERS.[1]

Hiram Hadley, A. M., President.

Ainsworth E. Blount, A. M.,
Professor of Horticulture and Agriculture.

John P. Owen,
Principal of Preparatory School and Professor of History and Civics.

Elmer O. Wooton, B. S.,[2]
Professor of Botany and Chemistry.

Clarence T. Hagerty, B. S.,
Professor of Mathematics.

C. H. Tyler Townsend,
Professor of Entomology, Zoology, and Physiology.

August J. Wiechardt, M. E.,
Professor of Mechanical Engineering,

Arthur Goss, B. S., A. C.,[3]
Professor of Chemistry.

Phœbe E. Haines, M. S.,
Instructor in Drawing.

Cosette Rynerson,
Instructor in Instrumental Music.

J. A. Lowe,[4]
Instructor in Languages.

Frederick F. Barker, LL. B.,[5]
Instructor in Languages.

Amelia Frenger,[6]
Assistant Instructor in Instrumental Music.

Frank E. Lester,
Librarian and College Clerk.

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(1) Arranged in order of election as professors, instructors, etc.

(2) Of both Botany and Chemistry for year 1891-2.

(3) Elected in May, 1892.

(4) Resigned in February, 1892.

(5) Elected March 1, 1892.

(6) Elected in February, 1892.

FACULTY COMMITTEES.

JUDICIARY.

A. J. Wiechardt, *Chairman*,
C. H. Tyler Townsend, Ida M. Jones.

COURSE OF STUDY.

E. O. Wooton, *Chairman*,
A. J. Wiechardt, F. F. Barker.

LIBRARY AND ENTERTAINMENT.

C. H. Tyler Townsend. *Chairman*,
E. O. Wooton, F. F. Barker.
F. E. Lester, Librarian, *Ex-Officio.*

PUBLIC GROUNDS AND COLLEGE FUTURE.

A. E. Blount, *Chairman*,
J. P. Owen, C. T. Hagerty.

CATALOGUE.

C. H. Tyler Townsend, *Chairman*,
J. P. Owen, Phœbe E. Haines.

BOARDING AND ACCOMMODATION.

C. T. Hagerty, *Chairman*,
A. E. Blount, Ida M. Jones.

NOTE—The President of the Faculty is *Ex-Officio* member of all committees.

STUDENTS.

JUNIORS.

Samuel Steel, *Sci. Ag.*	Las Cruces, N. M.

SOPHOMORES.

Joseph Francis Bennett, Jr., *Sci. Ag.*	Las Cruces, N. M.
John Milton Barnhart, *Cl. Sci.*	West Newton, Pa.
Humboldt Casad, *Sci. Ag.*	Mesilla, N. M.
Thomas Casad, *Sci. Ag.*	Mesilla, N. M.
Alice Casad, *Sci. Ag.*	Mesilla, N. M.
Fabian Garcia, *Sci. Ag.*	Mesilla, N. M.
Ralph Roy Larkin, *Cl. Sci.*	Las Cruces, N. M.
Lemuel P. McGrath, *Sci. Ag.*	Lordsburg, N. M.
Oscar Charles Snow, *Sci. Ag.*	Mesilla, N. M.
William Hickman Skidmore, Jr., *Sci. Ag.*	Las Cruces, N. M.
George Morgan Williams, *Sci. Ag.*	Las Cruces, N. M.
Kate Agnes Williams, *Sci. Ag.*	Mesilla, N. M.
Arthur Edwin Williams, *Sci. Ag.*	Mesilla, N. M.

FRESHMEN.

Harry Bennett, *Sci. Ag.*	Las Cruces, N. M.
Frank Cecil Barker, *Sci. Ag.*	Las Cruces, N. M.
Robert G. Boone, *Sci. Ag.*	Las Cruces, N. M.
Henry Cady, *Sci. Ag.*	Weed, N. M.
Jessie Casad, *Sci. Ag.*	Mesilla, N. M.
Charles J. French, *Sci. Ag,*	Las Cruces, N. M.
Numa Frenger, *Mech. Eng.*	Las Cruces, N. M.
Claude Herron, *Sci. Ag.*	Victoria, N. M.
Homer Hole, *Sci. Ag.*	Western Springs, Ill.
Charles Jacob Kezer, *Mech. Eng.*	Las Cruces, N. M.
David Barton Moore, *Sci. Ag.*	Morris Mills, Ga.
Ralph J. McFee, *Mech Eng.*	Las Cruces, N. M.
Albert H. Peterson, *Mech. Eng.*	Las Cruces, N. M.
William Logan Rynerson, *Cl. Sci.*	Las Cruces, N. M.
Charles A. Whitmore, *Mech. Eng.*	San Marcial, N. M.

COURSES OF STUDY.

FRESHMAN YEAR.

	AGRICULTURE AND SCIENCE.		MECHANICAL ENGINEERING.		CIVIL ENGINEERING.		CLASSICAL AND SCIENTIFIC.	
AUTUMN TERM.	Algebra	5	Algebra	5	Algebra	5	Algebra	5
	Rhetoric	5	Rhetoric	5	Rhetoric	5	Greek	5
	Book-keeping	5	Drawing, Mech	2	Book-keeping	5	Latin	5
	English	1	English	1	English	1	English	1
	Drawing, F. H	1	Drawing, F. H	1	Drawing, F. H.	1	Drawing, F. H	1
	Agriculture	1	Agriculture	1	Agriculture	1	Agriculture	1
	Military Drill	2	Military Drill	2	Military Drill	2	Military Drill	2
	Word Analysis	2	Word Analysis	2	Word Analysis	2	Word Analysis	2
			Wood Turning	2	Mechanical Drawing	2		
WINTER TERM.	Algebra	5	Algebra	5	Algebra	5	Algebra	5
	English Literature	5	Drawing, Mech.	2	Drawing, Mechanical	2	Greek	5
	Ancient History	5	Ancient History	5	Ancient History	5	Latin	5
	English	1	English	1	English	1	English	1
	Agriculture and Horticulture	1	Agriculture and Horticulture	1	Agriculture and Horticulture	1	Agriculture and Horticulture.	1
	Drawing, Perspective	1	Drawing, Perspec	2	Drawing, Perspective	2	Drawing, Perspective	2
	Military Drill	2	Military Drill	2	Military Drill	2	Military Drill	2
	Word Analysis	2	Word Analysis	2	Word Analysis	2	Word Analysis	2
			Carpentry and Joinery	2	English Literature	5		
SPRING TERM.	Algebra	5	Algebra	5	Algebra	5	Algebra	5
	Plane Geom	5	Plane Geom	5	Plane Geometry	5	Greek	5
			Drawing, Mechanical	2	Drawing, Mechanical	2	Latin	5
	English	1	English	1	English	1	English	1
	Horticulture	1	Horticulture	1	Horticulture	1	Horticulture	1
	Drawing, Arch	1	Drawing, Machine Sketching	1	Drawing, Arch	1		
	Military Drill	2	Military Drill	2	Military Drill	2	Military Drill	2
	Word Analysis	2	Word Analysis	2	Word Analysis	2	Word Analysis	2
	Botany	5	Steam Engine	3	Botany	5		
			Blacksmithing	2				

COURSES OF STUDY.

SOPHOMORE YEAR.

	AGRICULTURE AND SCIENCE.		MECHANICAL ENGINEERING.		CIVIL ENGINEERING.		CLASSICAL AND SCIENTIFIC.	
AUTUMN TERM.	Agriculture	1	Machine Design	3	Agriculture	1	Agriculture	1
	Drawing, Arch	1	Foundry	3	Drawing, Arch	1	Rhetoric	5
	English	1	English	1	English	1	English	1
	Geometry, Plane and Solid.	5	Geometry, Plane and Solid	5	Geometry, Plane and Solid	5	Latin	5
	Physiology	5			Physiology	5	Physiology	5
	Spanish	5	Spanish	5	Spanish	5	Greek	5
	Plane Trigonometry.	3	Plane Trigonometry	3	Plane Trigonometry	3		
WINTER TERM.	Agriculture and Horticulture	1					Agriculture and Horticulture	1
	Chemistry	5	Chemistry	5	Chemistry	5	Latin	5
	English	1	English	1	English	1	English	1
	Solid Geom. and Conic Secs	5	Solid Geom. and Conic Secs.	5	Solid Geom. and Conic Secs	5	Greek	5
	History, Med. and Mod	5	Machine Design	3	Junior Physics	5	History, Ancient	5
	*Physiology, Adv. {Rec	4	Foundry and Pattern Making	3	Drawing, Arch	1	English Literature	5
	{Lab	1						
	Spanish	5	Spanish	5	Spanish	5		
SPRING TERM.	Botanical Lab	5	Elementary Mechanics	5	Elementary Mechanics	5	Botany	5
	Chemical Lab	5	Chemical Laboratory	5	Chemical Laboratory	5	Latin	
	Spherical Trigonometry	3	Spherical Trigonometry	3	Spherical Trigonometry	3	Greek	5
	English	1	English	1	English	1	English	1
	Horticulture	1	Machine Design	3	Junior Physics	5	Horticulture	1
	American Literature	4	Pattern Making	3	American Literature	4	Plane Geometry	5
			Boilers	2				

* Elective.

COURSES OF STUDY.

JUNIOR YEAR.

	AGRICULTURE AND SCIENCE.		MECHANICAL ENGINEERING.		CIVIL ENGINEERING.		CLASSICAL AND SCIENTIFIC.	
AUTUMN TERM.	Chemical Agriculture	3	Analyt. Geometry	5	Analyt. Geometry	5	Geometry, Plane and Solid	5
	English	1	English	1	English	1	English	1
	Geology	4	Kinematics.	4	Geology	4	Geology	4
			Descrip. Geometry	3	Descriptive Geometry	3	Latin	5
	Surveying { Recitation	2	Machine Design	3	Surveying { Recitation	2	Trigonometry, Plane	3
	Surveying { Field Work	3	Machine Shop	3	Surveying { Field Work	3	Spanish	5
	Zoology and Comp. Anat	3	Steam Engine	3	Zoology and Comp. Anat	3	Zoology, and Comp. Anat	3
WINTER TERM.	English	1	English	1	English	1	English	1
	Geology	5	Calculus, Diff	5	Calculus, Diff	5	Spanish	5
	Physics	5	Physics	5	Surveying and Leveling	3	Latin	5
	Stock	4	Descrip. Geometry	2	Descriptive Geometry	2	Solid Geometry, and Conic Secs	5
	Zoology, Systematic	5	Kinematics	2	Zoology, Systematic	5	Zoology, Systematic	5
			Machine Design	3	Soph. History, Med. and Mod	5	History, Med. and Mod	5
			Machine Shop	3				
SPRING TERM.	Civics	5	Calculus, Int	5	Calculus, Int	5	Latin	5
	English	1	English	1	English	1	English	1
	Entomology	5	Graph. Stat. Mech	1	Civics	5	Entomology	5
	Horticulture	4	Machine Design	3	Astronomy, Descriptive	5	Elem. Mechanics	5
	Physics	5	Physics	5	Surveying, Railway	3	Botanical Lab	5
			Mechan. Lab	2			American Literature	4
			Machine Shop	3				
			Thesis, Original	1				

COURSES OF STUDY.

SENIOR YEAR.

	AGRICULTURE AND SCIENCE.		MECHANICAL ENGINEERING.		CIVIL ENGINEERING.		CLASSICAL AND SCIENTIFIC.	
AUTUMN TERM.	Agriculture	4	Machine Design	2			Logic	5
	English	1	Mechanical Lab	3			English	1
	Landscape Gardening	5	Mechanics, Analyt	5	Mechanics, Analyt	5	Landscape Gardening	5
	Political Economy	5	Mechanics of Machinery	4	Political Economy	5	Political Economy	5
	Jun. Anal. Geometry	5	Machine Shop	2	Railway Location	5	History of Philosophy	5
	*Entomology, Adv	4	Strength of Materials	5	Strength of Materials	5		
	*Histology, Animal	3						
WINTER TERM.	Horticulture	4	Design, Machinery	2	Design, Bridge	5	Chemistry	5
	English	1	Mechanical Lab	3	Engineering	5	English	1
	Meteorology	5	Mechanics, Analyt	3	Mechanics, Analyt	5	Metoerology	5
	Psychology	3	Psychology	3	Psychology	3	Psychology	3
	Jun. Diff. Calc	5	Mechanics of Machinery	4			Physics	5
			Machine Building	2				
			Thermodynamics	5				
SPRING TERM.	Moral Science	3	Design Machinery	3	Designing	3		
	English	1	Graphics of Roofs	3	Graphics of Roofs	3	Physics	5
	Veterinary	5	Mechanical Lab	3	Engineering	4	Chemical Lab	5
	Jun. Des. Astronomy	5	Mechanics of Machinery	4			Civics	5
	Jun. Int. Calculus	5	Moral Science	3	Moral Science	3	Moral Science	3
	Thesis	5	Thesis, Professional	5	Thesis, Professional	5	Thesis	5
			Machine Building	2				

* Elective.

Courses of Study.

During the coming year, the following courses will be taught. As far as practicable these will be the same through the Freshman year, but during the subsequent years they diverge widely.

(1.) A course in Science and Agriculture.
(2.) A course in Mechanical Engineering.
(3.) A course in Civil Engineering.
(4.) A Classical Scientific course.

Course in Science and Agriculture.

PRACTICAL AGRICULTURE AND HORTICULTURE.

In this subject the purpose is not to make complete farmers, fruit-growers, and stock-breeders, full-fledged and proficient in all lines of practice; but men, intelligent citizens, with correct, rudimentary knowledge so well established that it may serve them as a sure and infallible groundwork for future acquirements and future development. Agriculture being the basis of all the industrial pursuits, a wide range of instruction on both general and special subjects is absolutely necessary.

In the outline submitted we recognize the fact that education is always a help to the farmer; that he may be more successful as a farmer after a thorough training in any line of study—classical, scientific, or technical—the education only making more effective the powers of the mind; and that the best years of his life for college work are the best for acquiring a business knowledge and training.

The lecture course proposes to furnish to all who wish to be farmers, in the true sense of the term, an opportunity to inform and acquaint themselves with the many scientific questions and teachings which their work daily brings before them, and to assist them in working out many problems yet unsolved.

During the Freshman and Sophomore years, a series of lectures on the elements of agriculture and of horticulture will be given, the scope of which will include the history and development of agriculture as an art and a science, its relations to other arts and sciences and to our national prosperity; on farm crops, planting, cultivating and harvesting, stock, manure, fertilizers, buildings, fences, implements, accounts, buying and selling.

Under the head of horticulture the lectures will include pomology, vegetable gardening, floriculture, and seed growing.

During the Junior year, lectures will be given on the various breeds of cattle, horses, sheep, swine and poultry; soils, seeding, irrigation, stock-feeding for flesh and milk.

In horticulture—budding, grafting, layering, pruning, care and cultivation of fruit trees, vines, and small fruits.

During the first and second terms of the Senior year, rotation of crops, drainage, cereals, their improvement by selection, crossing and care, principles of feeding, milk, butter, and cheese-making. In horticulture—landscape gardening, ornamentation with trees, shrubs, flowers, lawns, wind-brakes, and the effects of trees on climate.

A. E. BLOUNT, Professor.

CHEMISTRY.

During the winter term of the Sophomore year, students will study the theory of chemistry, acquainting themselves with symbols, valence, atomic weights, methods of writing reactions, etc., assisted by occasional recitations in the laboratory and by many experiments before the class.

Most of the time will be devoted to the study of inorganic chemistry, although organic chemistry will receive some attention.

In the spring term of same year, students will spend two hours daily in the laboratory where each will be supplied with a full list of reagents and all necessary apparatus for the analysis of all common compounds. All the various methods of chemical separations will thus be learned by experience, and the examination will consist of the analysis of several substances of which the student knows nothing more than what he may see, feel, taste, or smell, and of which he must find out all that may be known. Text-books: Remsen's Briefer Course; and Laboratory Manual, by Dennis.

A student taking this second term's work will be charged five dollars ($5.00) to cover expense of materials, fuel, etc., and besides this will be held responsible for all apparatus broken by himself.

During the fall term of the Junior year, students of the Science and Agriculture course will spend nine hours each week in the laboratory at work in agricultural chemistry.

The work in this class will be simply an introduction to the methods of quantitative analysis, both volumetric and gravimetric, in relation particularly to the analysis of waters, soils, plants, and manures.

In so short a time it is useless to attempt to give more than a general and rudimentary knowledge of so extensive a subject, and only those points which are of fundamental importance will be dwelt upon. Frankland's Agricultural Chemical Analysis will be taken as a guide in this work.

The department of chemistry has at present a department library of several volumes at its command, among which are the best reference books on chemistry and kindred subjects.

The reading room is supplied with the best periodical literature on this subject printed in the English language.

E. O. Wooton, Professor.

BOTANY.

Elementary Botany.—In the spring term of the Freshman year the organs of plants are studied first, most of the time being devoted to phænogamic botany. The subject of cryptogamic botany will be briefly studied in the latter part of the term, as well as some of the more prominent points of physiological botany.

The classification of plants and their uses are other points which will receive attention. During this term it will be a part of the required work that each student shall analyze a number of flowers, as well as prepare some few specimens for the herbarium. Each student is required to provide himself with a pocket lens, needles, and other apparatus necessary for the analysis of flowers.

Gray & Coulter's is the text book in use.

Advanced Botany.—In the spring term of the second year, two hours daily are devoted to the study of physiological botany. For this purpose the college is supplied with Bausch and Lomb's compound "Model" microscopes, with magnifying power of from 50 to 300 diameters, as well as with all apparatus, reagents, books of reference, etc., necessary for the study of the minute structure of plants.

The method of work will be the study of the simple vegetable cell, its contents, various modifications, etc., from the simplest to the most complex forms of plant life.

Some of the time will be devoted to the study of smut, rust, and other parasitic cryptogams, thus introducing the student to the plants which are damaging to the various valuable members of the vegetable kingdom. The intention is not to attempt anything more than a good foundation for future work, but just to touch upon the general and more important points of microscopic botany, and so give an outline view of the subject.

Opportunity for more advanced work in this department will be given if desired by students, but special arrangements must be made for it.

Bessie's Botanies, and Arthur, Barnes and Coulter's Handbook of Plant Dissection will be used as guides in this work.

For the first term's work in botany the students have access to the department library which contains a large number of valuable books of reference on this work. Among others may be found Chapman's Flora of the Southern United States, Gray's Flora of North America, the Botany of King's Survey of the 40th Parallel, Botany of Wheeler's Survey of the 100th Meridian, Botany of the Mexican Boundary Survey, Botany of the Pacific Railroad Survey, Genera Plantarum, and many other valuable books on organography and systematic botany. Students also have access to the college herbarium, which now contains specimens from many parts of the United States, for comparative study and reference.

Students in the advanced botany class will find some of the standard works on physiological and histological botany in the library; such as Sach's on the Physiology of Plants, Strasburger's Manual of Histology, DeBarry on Morphology and Biology of the Fungi, Mycetozoa and Bacteria. The same author on Comparative Anatomy of Phanerogams and Ferns; Crookshaut on Bacteria, and many others.

A fee of one dollar ($1.00) will be charged students of the advanced class to compensate for the wear on the instruments, and the slight breakages in this work. Any serious damage done to the instruments which is due to carelessness on the part of the student must of course be made good by him.

E. O. WOOTON, Professor.

ENTOMOLOGY.

The regular course in entomology occupies the spring term of the Junior year, and will be presented in three topics, as follows: Anatomy and physiology; systematic entomology, or the classification of insects; and the natural history, metamorphosis and habits, with special reference to economic entomology, or insects injurous to agriculture and horticulture and the remedies to be used against them.

Each student will be afforded practice in the use of characters employed in classification, and will be required to identify several insects in each order by means of analytical tables. In addition, every student will be required to make a collection of a certain number of species in any one or more orders, and will be instructed in the proper methods of mounting. Instruction will likewise be given in the use of the miscroscope and the manipulation of apparatus. A hand lens of good field and moderate power, and another of higher power will be necessary in this study.

Hyatt and Arms' Insecta, and Packard's Entomology for Beginners are used in conjunction as text-books. They are more or less supplemented by lectures, by use of the college collection of insects, and by a large and valuable stock of books of reference.

An advanced course in entomology is elective to those who show proficiency in the required course, and have special taste in this direction. It will occupy the fall term of the Senior year. The object of this course is to go farther along the same lines begun in the required course, and to attain fitness for special study of some selected group.

Comstock's Introduction to Entomology will be used as a text-book, supplemented by lectures and special work under immediate supervision and guidance.

C. H. TYLER TOWNSEND, Professor.

ZOOLOGY.

Zoology is treated under the heads of comparative anatomy; and systematic zoology, or classification according to structure and embryonic development, together with the habits and geographical distribution of animals.

It is divided into two terms of required work, occupying the fall and winter terms of the Junior year. The first term is entirely occupied with dissections of the various types of the animal kingdom, and the student is required to keep careful notes and drawings illustrative of his work. Dissection of the higher animals is so planned as to demonstrate homologies in the anatomy of the vertebrates, and students are required to prepare mounted slides of tissues for the microscope. The second term is devoted entirely to systematic zoology, in which the most approved scheme of classification is thoroughly studied. Some practice is given in the identification of species, and a certain amount of time is devoted to a consideration of economic zoology.

Colton's Practical Zoology is used as a guide in the first term's work. Orton's Comparative Zoology is used as the text-book during the second term. The scheme of classification, as there stated, is supplemented by reference to Claus and Sedgwick's text-book. The value of the student's work in this subject is greatly enhanced by a very complete set of books of reference for the zoological laboratory.

C. H. TYLER TOWNSEND, Professor.

PHYSIOLOGY.

This study is divided into a required, and an elective advanced course. The required course occupies the fall term of the Sophomore year, and is pursued with the aid of a text-book. The subject matter of the recitations is illustrated by means of charts, models, and a mounted human skeleton. The students will have the opportunity to examine prepared slides of various tissues of the human body under the microscope, and will be given a chance to test their skill in the preparation of new slides from the tissues of the lower animals.

The advanced course follows the above in the winter term of the Sophomore year, and is made to embrace human and comparative anatomy and physiology. It is pursued with the aid of an advanced text-book, and one period per week, or its equivalent, is spent on the dissection of the dog, as a practical basis for the study of anatomy and physiology.

Martin's Human Body (Briefer Course) is used the first term. In the advanced class, Martin's Human Body (Advanced Course) is used as a text-book, and Howell's Dissection of the Dog is used as a guide in dissection. The study of this subject is greatly facilitated by the Bock-Staeger set of 28 anatomical models of the human body which this department possesses.

An elective course in animal histology will be open, in the first term of the Senior year, to those students who have shown proficiency in physiology and zoology. Schæfer's Essentials of Histology will be used as a guide in histological work.

C. H. Tyler Townsend, Professor.

MATHEMATICS.

The prescribed course in Mathematics, for all regular college students, comprises a year of algebra, a year of plane and solid geometry including conic sections, and one term, three periods per week, of plane trigonometry. One term's work in elementary mechanics is required of all except those who are taking the course in Science and Agriculture. All, except those in the Classical Scientific course, have spherical trigonometry, one term, three periods per week, land surveying one term, and analytical geometry and calculus one year. In addition to the above, students taking the Civil or Mechanical Engineering courses have two terms of analytical mechanics.

Algebra is begun in the Freshman year, and completed as far as the binomial theorem inclusive. Much attention is given to the demonstration of original theorems, and to the solution of original problems in geometry. The instruction in all the branches of mathematics will be made as practical as possible.

C. T. Hagerty, Professor.

POLITICAL SCIENCE AND HISTORY.

Constitutional Law.—This is a course upon the constitution of the U. S. Cooley's "Principles" will be used as a text-book, supplemented by lectures. This study occupies a full term of the Junior year.

Political Economy.—This subject is pursued during a full term of the Senior year. Instructions will be given by means of recitations and lectures.

The current practical problems of industrial society are also discussed on the basis of economic principles. Each student will be required to prepare an original paper upon some topic which will be assigned him.

History.—During the winter term of the Freshman year, Sheldon's History is studied, taking ancient history. Mediæval and modern history is studied during the winter term of the Sophomore year. While a text-book is used, the instruction is largely supplemented by lectures, and illustrative readings. Considerable attention is given to the various forms of government. The chief object of the course is to inculcate in the student a love of the study of history, and to teach him to form his own conclusions from the facts presented. Students will have access to the following books of reference on the above subjects: The works of Brancroft, Mace, McMaster, Bryce, Cooley, Woolsey, Grote, Rawlinson, Wells, Adam Smith, Mill, Carey, and many others.

JNO. P. OWEN, Professor.

DRAWING.

Free-hand.—This study is required of students in the preparatory school during two years. The students of the first year will complete books V and VIII of White's Drawing; those of the second year books IX and X of the same series. Both classes will be given supplementary exercises from models and copies.

The students of the college department are required to spend two hours per week during the first term of the Freshman year in free-hand drawing. This work includes a progressive review of the primary work and the construction of regular and irregular courses with their practical applications as taken up in Walter's Free-hand Drawing, book I.

Linear Perspective.—During the winter term of the Freshman year, all students will devote four periods per week to exercises in elementary linear perspective. Problems are given involving the perspective of points, lines, surfaces—as the square, circle, and hexagon—rectangular solids and their intersections, pyramids, and prisms. Henry Lewis' Principles of Linear Perspective is used as a text-book.

Architectural.—During the spring term of the Freshman year, students of the courses in Science and Agriculture and Civil Engineering will devote two hours per week to architectural drafting. Tinting, shading and the conventional modes of representing building materials will receive special attention. The construction of plans will be taken up by the students of the above mentioned course during the fall term of the Sophomore year and this line of work will be continued during the winter term of the Sophomore year for students of the course in Civil Engineering. Babcock's Architecture will be used as the basis of this course.

A more advanced course in drawing will be provided for those who desire it.

Books of reference are Mahan's Industrial Drawing, Church's Descriptive Geometry, Walter Smith's Art Education, Lubke's History of Art, Prang's Art Atlas, Von Bezold's Theory of Color, Viollet Le Duc's Young Designer, Story of a House and Annals of a Fortress, White's Model and Object Drawing and Theory of Design, Ellis' Sketching From Nature, Walker's Hand-book of Drawing, and Morse's Mechanical Drawing.

Phœbe E. Haines, Instructor.

INSTRUMENTAL MUSIC.

Piano.—First term includes Urbach's Instructor; Touch and Technic, by William Mason; Finger Exercises, book I from Kohler, Loeschorn or Czerny.

Second term includes Urbach continued; Mason continued; Finger Exercises continued, book I and II; easy selections.

Third term includes Urbach continued; Mason continued; book II of Exercises continued, being book I of Cramer's Studies; book I of Kuhlau's Sonatas.

Fourth term includes Urbach completed; Mason continued; Cramer and Kuhlau continued; selections of medium difficulty.

Fifth term includes Mason, Cramer, and Kuhlau continued; Beethoven's Sonata, p. 49, No. 1 or No. 2.

Sixth term includes Mason continued; book I of Cramer's Studies completed; book I of Kuhlau's Sonatas completed; begin book II of Cramer's Studies; also book II of Kuhlau's Sonatas; difficult selections.

Higher work will be provided for those who desire it.

Recitals.—A musicale will be given at the end of each term, to show the progress made by the pupils, and also to give them an opportunity to play in public.

COSETTE RYNERSON, Instructor.

Course in Mechanical Engineering.

The candidate for admittance to this department should be thoroughly prepared in mathematics, and while fifteen years is the minimum age of entrance, it is strongly recommended that those who expect to take this course should possess that maturity and force of character which comes with the riper age of about eighteen. It is, therefore, advisable for a student of fifteen to take at least one or two years of literary work before commencing his professional studies.

This course aims to educate young men of ability to undertake and successfully work out the ordinary engineering problems. The student's time will of necessity be devoted very largely to technical studies, but enough literary work is included to give as broad and liberal an education as the limited time of the course will permit. The leading subjects taught are, pure and applied mathematics, English, drawing and machine design, modern shop practice, mechanical laboratory practice, and the theory underlying engineering. An outline of the ground covered by pure mathematics and English will be found under their respective heads.

DRAWING AND MACHINE DESIGN.

Drawing begins in the first term of the Freshman year, and consists of free-hand sketching from outline figures and mechanical models. During the same term instrumental drawing is taught, the object being to make the student familiar with the ordinary drawing instruments. The required work consists of drawing geometrical figures, involving combinations of right lines and curves. Extreme accuracy is required in this, as in all the practical work of this department, the students repeating each exercise, if necessary, until a satisfactory result shall have been obtained.

Perspective drawing is taught with the two-fold object of learning the application of its principles and as a means of further practice in free-hand and instrumental drawing, begun in the preceding term. Isometrical drawing, in addition to its own value, is taught as a means of reading mechanical drawings, the student, after receiving the necessary general directions, being required to make isometrical drawings from given mechanical drawings. Following this, in the last term, the student makes dimensioned sketches and pencil drawings of sections of lathe, planer, and engine-beds; and valve passages and other machine castings. These drawings being made of the same size will be traced and blue printed, each student making enough prints of his own for distribution among his class-mates. These prints will be bound into books and preserved for future use in connection with the foundry and pattern-making work.

The time assigned to drawing in the Sophomore year is devoted to a thorough consideration of the elements of machine design, such as fastenings, bearings, pulleys, belts, gears, and connecting rods.

The design of a one-hundred horse power high speed steam engine, problems in geometry, valve diagrams, and graphic statics of mechanisms comprise the work on this subject in the Junior year.

The Senior year is begun by the student designing a complete machine, or machine part, and making the necessary detail drawings and blue prints, the latter to be used by the student during the second and third terms of this year to aid him in completing a "graduating piece" in the shops, which shall show proficiency in that part of the course. In this connection the student is advised and encouraged to select some design of his own, in which case he is required to report thereon, in writing, with the necessary sketches, for the approval of the head of the department, not later than May 1st of his Junior year. Providing a student fails to make his own selection, a subject will be assigned him; but in either case the object sought is originality, and not the mere copying of work done by others. The designing of hoisting, pumping, metal-working, electrical, and other machinery from specifications, completes this work in the Senior year.

The draughting room, as well as the shops and engineering laboratories, are at all times conducted, as nearly as practicable, on the basis of an engineering establishment.

SHOP PRACTICE.

It is not the object of this course to produce skilled mechanics. Such a course may be provided, however, should the demand warrant such a departure. This part of the course will embrace sufficient instruction in the trades of the wood-turner, carpenter and joiner, blacksmith, moulder and founder, pattern-maker, and the machinist, to enable a graduate of this department to intelligently superintend and successfully direct work depending upon a knowledge of these trades. Wood-turning and carpentry and joinery, being preparatory to pattern-making, involve progressive exercises illustrating the use and care of edge tools. The final work in these two subjects will be the production of a useful or ornamental article requiring joinery and wood-turning in its construction, and illustrative of the student's proficiency in these trades.

In the blacksmith shop the student is taught the care and management of his fire, forging and welding iron; forging, annealing, hardening, and tempering steel. The production, by the student, of a set of lathe and vise tools, to be used later in the machine shop, constitutes the final work in this trade.

In the foundry, instruction is given in moulding materials, moulding in green sand, dry sand and loam, core-making and mixing and melting of metals, and cupola management. In addition to making several castings for future use in the machine shop, the student is required to make a difficult or ornamental casting in bronze as the final work.

Pattern-making.—The student, having taken wood-turning, carpentry and joinery, and foundry work, is now farely well prepared to commence pattern-making; and from his foundry experience he knows what it is to have a well or poorly constructed pattern. This work will consist of a carefully selected set of exercises designed to bring out the principles underlying the pattern-makers' trade; but the student stands ready at all times to assist the Seniors in the construction of patterns for their "graduating piece." In the assignment of Sophomores to this work, selection will be made from the most skilled and careful members of the class.

To test the student's knowledge of pattern-making and foundry work, he will be examined on the blue prints of machine castings made in the Freshman year.

Machine-tool work includes instruction at the vise, where the student finishes a pair of riveted callipers and a hammer, both of which, together with his center punch and chisels, now used for the first time, were made in the forge-shop. After a few additional exercises at the vise, the student begins work on the machine tools, which consists of exercises so designed as to exhibit the chief uses of the lathe, planer, drill-press, milling-machine, shaper, and hand-lathe. This work occupies the student's time in the shop until the second term of the Senior year. By this time, if a diligent student, he has sufficiently mastered these tools to begin his "graduating piece," the final work in the shops.

Seniors desiring assistance from the Sophomore pattern-makers may, on receiving permission from the head of the department, obtain experience in this direction if it is thought to be of advantage to both classmen.

Provided the "graduating piece" is finished and accepted before the end of the year, the remaining time may, by special permission, be devoted to advanced work of an engineering character.

MECHANICAL LABORATORY PRACTICE.

This subject is begun by a study of the methods and means of testing the materials of engineering, the performance and efficiency of injectors, boilers, pumps, and engines.

The callibration of instruments used by the engineer is followed by tests of strength of materials: a study of the theory being carried on at the same time in the class room, the student thus proving the results of theory by actual tests.

Duty and efficiency trials of pumps, engines, etc., completes this work; the student being directed to return reports in accordance with well-established engineering practice.

THEORETICAL ENGINEERING.

The application of mathematics to practice is considered under the subject of boilers, their strength, construction, and efficiency; kinematics, nature and equivalence of mechanism, due attention being given to the important applications of this subject to machine design; the steam engine considered as a transformer of energy, its design, construction, and efficiency; mechanics of machinery, treating of hoisting machinery, accumulators, cranes, locomotives, pumps, pumping and blowing engines, compressors, and fans. Strength of materials, analytical mechanics, and thermodynamics complete the work of the Senior year.

The graduate of this couse, on the presentation of a satisfactory thesis, will receive the degree usually given for this work.

A. J. WIECHARDT, Professor.

Course in Civil Engineering.

The first year's work in this course differs from that of the course in Science and Agriculture in the amount of drawing required. Surveying is begun in the Junior year and continued to the end of the course. It is taught by means of lectures, recitations, field-work and office-work, five periods per week each term except during the second term of the Junior, and the third term of the Senior year, when only three periods per week will be devoted to the subject. A class period is considered equivalent to two periods in the drawing room and three in the field.

Whenever the word "period" is used, the amount of work equivalent to a class period of fifty minutes is understood.

During the first term of the Junior year students receive instruction in the theory and practice of land surveying. Surveys are made, notes plotted, and areas computed. This work is followed by trigonometrical surveying and leveling, and topographical surveying the third term.

The theory and practice of rail-road surveying will be taught throughout the Senior year. It will include problems in simple and compound curves, tremonts, earthworks, and economics of locations. Students will be required to make reconnoissance, preliminary, and location surveys of a railroad several miles in length. Railroad maps and profiles must be made from the field location. One lecture a week on railway economics and construction will be given in the last term.

The course of instruction is described to make the student familiar with the principal instruments and methods used in land, topographical and railroad surveying. He will have practice in the use of the compass, engineer's transit with solar attachment, engineer's level, plane table, prismatic compass, aneroid barometer, clinometer, optical square, planimeter, pantograph, and sextant.

During the Senior year instruction will also be given in the elements of civil engineering, which will embrace the following subjects: Properties of materials used in construction, strength of materials, masonry, framing, bridges, roofs, common roads, railroads, and canals.

C. T. Hagerty, Professor.

Classical Scientific Course.

This course is intended for those students, who, although not reading with the view of entering any particular profession, are nevertheless desirous of receiving a liberal education. During the first two years the chief studies are Latin and Greek. These are taken for the most part in connection with the etymology and structure of the English language, and as a preparation for the reading of science, philosophy, and law. The principles of science and philosophy are the chief subjects of study for the last two years.

A student who has gone through the first half of this course, and is desirous of entering one of the strictly classical colleges, will be in a position to pass the required entrance examination. without further study.

Under certain circumstances a student who wishes to do so will be allowed to continue his classical studies during his third and fourth years. A detailed arrangement of the course will be found on pages 6 to 9.

F. F. Barker, Instructor.

General Information.

REQUIREMENTS FOR ADMISSION.

To enter the Freshman class of the college, students must be able to pass a satisfactory examination in reading, spelling, arithmetic completed including metric weights and measures, English grammar, U. S. history equivalent to that contained in any good text book on this subject, descriptive geography, and hygiene as required by the U. S. law for territories.

All applicants for admission must be at least fifteen years of age and must furnish satisfactory evidences of good moral character. No person known to indulge in intoxicating drinks or to visit gambling houses will be received. No student under the age of fourteen (14) years will be admitted to the Preparatory School, unless in the care of a parent or other legal guardian.

Students who can satisfactorily pass the above examination are well equipped for either the ordinary duties of life, or to enter successfully upon the college course. Without this foundation they cannot succeed in the college.

Therefore, both in the interest of the student and the college, we shall insist that this preparation be thoroughly made.

LENGTH OF TERMS.

The college year is divided into three equal terms of twelve and a half weeks each:

Autumn term begins on the last Wednesday in August, and ends on the Friday before the last Wednesday in November.

Winter term begins on the Monday before the last Wednesday in November, and ends on the first Tuesday in March.

Spring term begins on the first Wednesday after the first Tuesday in March, and ends on the first Friday after the last Saturday in May.

Holiday vacation of two weeks begins on the Saturday before the last Sunday in December, and ends on the first Sunday after the first Saturday in January. All legal holidays will be observed.

Examination of new students for the purpose of classification will be held on the Tuesday before the last Wednesday in August, at 9 a. m. All applicants for admission, and all former students who were not present at the regular term examination, or who failed to make the grade and desire another examination, should present themselves promptly.

EXPENSES.

Entrance fee, each year, $3.00. Deposit as guarantee of proper care of books, apparatus, and other property, $5.00. This will be returned when the student withdraws from college, provided there are no legitimate charges against him. Sophomore students in chemistry, to cover breakage of apparatus, $5.00. Sophomore students in botany, $1.00. Students in mechanical engineering, to pay for materials used, each term, $3.00. Students in instrumental music, per quarter, $10.00. For use of horse stall, per term, 25 cents. All fees must be paid in advance.

TEXT-BOOKS AND STATIONERY.

As the college is distant about two miles from any store dealing in these articles, it has been found necessary, for the accommodation of students, to carry at the college a small line of stationery, such as pencils, pens, paper, etc., which are sold to students, for cash only, at a very small profit.

Text-books, and some other materials, will be furnished by the college. Either they will be sold to students—invariably for cash—at actual cost, or they will be loaned. Each student will be requested to deposit in advance the sum of $5.00, which will be credited to his account on the college books, and made a special deposit of in the bank. Against this sum will be charged all unreasonable damages done to books or other property, or losses sustained by the student's neglect to properly account for books that have been loaned to him. At the close of the year, or when said student withdraws from the college, the balance will be returned to him. This deposit fee may be increased if circumstances and the justice of the case seem to demand it.

REDUCED RAILROAD FARES FOR STUDENTS.

Arrangements have been made with the Atchison, Topeka, and Santa Fe Railroad Company, by means of which students who have paid full fare on coming to the college are returned for one-third fare. This reduced return fare will only be given when a student returns at the end of a term. It will not be given at other times. Notice particularly how to obtain this reduced fare, and comply with the instructions to the letter. When you buy your ticket to come to the college, if you pay full fare, explain to the agent where you are going, and ask him to give you a receipt for the amount you pay him. Preserve the receipt and bring it with you. When you desire to return, it will be the essential thing in securing for you the one-third return fare. Only those who pay full fare on coming will be benefited by this arrangement. We hope arrangements will be made with the other railroads in the Territory for similar accommodations.

CLASS PERIODS AND EXERCISES.

The following definition of an "exercise" is copied from the rules adopted by the faculty:

"An exercise shall consist of one lecture or recitation; one essay, oration or declamation; two hours of drawing; and three hours of laboratory, shop-practice or field work."

A college hour consists, for the present, of fifty minutes, and is equivalent to a class period.

In the tabulated statements of the courses of study. on pages 6 to 9, the figure to the right of any subject signifies the number of exercises per week in that subject.

HOW TO ENTER THE COLLEGE.

The post office of the college is Las Cruces, New Mexico. This is also the general freight and express office for the college, but Mesilla Park station on the A. T. & S. F. R. R. is nearer the college, and more convenient for those who have no occasion to visit Las Cruces. There is no hotel at Mesilla Park.

Strangers will find it more convenient to stop at Las Cruces, and go temporarily to one of the hotels. They should then report to the president, who will assist them in securing board or finding other accommodations.

By all means be on hand for the entrance examination and the first recitations. A single day's absence at this part of the term may cause the student and the college much trouble.

Having passed examinations satisfactorily, call on the president, who will assign you to your classes, and inform you in writing what fees you must pay and what books you need. Next call on the college clerk, pay your fees, get your receipt, and draw your books.

HOW TO WITHDRAW FROM THE COLLEGE.

If you have occasion to leave the college. call on the president and make your arrangements with him. He will see that your accounts, of every kind, are properly adjusted, proper records made of your work, whatever money may be due from your credit deposit refunded, and so arrange your records that your manner of withdrawal shall not stand in the way of an honorable discharge.

Students who leave without having satisfactorily adjusted all these matters will not be entitled to an honorable dismissal.

GENERAL COLLEGE EQUIPMENT.

The tract of land on which the college buildings stand contains 250 acres. Of this one hundred acres is the finest bottom land under irrigation, and the remainder is mesa land. The whole will be used for experimental purposes in connection with the experiment station.

The buildings consist of (1) an elegant two-story and basement brick structure with stone trimmings and massive stone foundation. It contains thirteen beautiful and commodious rooms and an elegant hall capable of seating a large audience. The building is heated throughout by means of hot air furnaces. The rooms are furnished well; blackboards from the slate quarries of Pennsylvania; students' desks of solid antique oak; library furniture from details kindly furnished by W. B. Wickersham, Secretary of Chicago Public Library; chemical, entomological, and mechanical laboratories fitted up with the most approved appliances; and water throughout the building. (2) Out-buildings, feed rooms and horse sheds, sufficient to comfortably house forty horses. These are used to accommodate the horses of those students who ride to the college. (3) A large and commodious ware house for machinery, etc. (4) A pump-house, with machinery for pumping water from a system of six wells for the irrigation of the college campus, which, being higher than the college farm, can not be irrigated from the present system of acequias.

The college has a beautiful library and reading room containing a fine selection of books, and several sets of cyclopaedias and different dictionaries; a large number of leading magazines, scientific, literary, agricultural, and horticultural periodicals and papers, and many of the Territorial papers, kindly furnished to the institution.

There has also been provided extensive chemical and physical apparatus; numerous microscopes of various kinds; imported models, a skeleton, and charts and maps for the study of human and comparative physiology; a surveyor's outfit of transit, level; a five-inch portable telescope with all accessories, a twenty-four inch slated globe, and other appliances for the student's use.

MECHANICAL ENGINEERING EQUIPMENT.

Although scarcely a year old this department is provided with five (5) iron wood-turning lathes all of different design, thus exhibiting the various types of the best modern machines of this class; also one (1) Universal cross-cut sawing machine, and one (1) forty by six-inch power-driven grind-stone. The above are driven by an eight (8) horse-power high-speed vertical engine, supplied with steam from a twelve (12) horse-power water tube, boiler using petroleum fuel.

Each student is required to run this engine and boiler as a part of his shop practice.

Six (6) cabinet-makers' benches, twelve sets of carpenters' tools, and a well furnished tool room complete this part of the apparatus, all of which is temporarily located in confined quarters in the basement of the main college building.

It is proposed to increase this equipment by the addition of a forge shop and iron-foundry for next year, and later by a machine shop and mechanical laboratory.

In the draughting room accommodations are furnished for six students at one time, and a good start has been made in the collection of drawings of different classes of machinery. A very superior blue printing frame, together with the necessary drawing boards, etc., complete the list of the apparatus so far provided for this work.

CHEMICAL EQUIPMENT.

One of the basement rooms of the college building is a present in use as a chemical laboratory.

This room is connected by pipes with the general water supply tank of the college, and contains a porcelain lined sink for waste water and chemicals, a "hood" or enclosed closet with good outside draught to carry off obnoxious gases, and some cases for storing chemical apparatus and chemicals.

At present it contains temporary desks and fixtures for the accommodation of eight students.

Each desk is supplied with a set of thirty-three reagent botles, porcelain dishes, beakers, test-tubes, test-tube racks, lamp, platinum foil and wire, and various other things ncessary in inorganic analysis.

A small still furnishes the distilled water necessary.

Beside the above, the laboratory contains a No. 2 Becker balance, a good spectroscope, a Joly spiral balance, a Westphal specific gravity balance, a Scheibler saccharimeter, and other pieces of more expensive apparatus necessary in the work.

ENTOMOLOGICAL AND ZOOLOGICAL EQUIPMENT.

The department of physiology, zoology and entomology is furnished with a very full and admirably selected library of standard works on these subjects. Among these may be mentioned full sets of the Proceedings and Memoirs of the Boston Society of Natural History, Transactions of the American Entomological Society, Edward's Butterflies of North America, Standard Natural History, Macquart's Dipteres Exotiques, Rolleston's Forms of Animal Life, Claus and Sedgwick's Zoology, Landois and Stirling's Human Physiology, Gray's Anatomy, Mivart's Cat, Wilder and Gage's Anatomical Technology, and the works of Darwin, Huxley, Packard, and many others.

The department possesses a fine Queen's No. 3 New Model Acme microscope, fitted with glass stage, iris diaphragm, triple nose-piece, objectives, and all accessories; together with a complete list of instruments and material necessary for preparing, staining, and mounting objects or tissues. Drawing instruments and materials have also been provided for doing the very best class of original work.

The college collection of insects fills about twenty cabinet boxes, and is rapidly increasing. This does not include one hundred and fifty vials of alcoholic specimens, mostly larval stages. The whole is properly classified and arranged. All of this material was collected during the past year, and its value is greatly enhanced by the very full and careful notes that have been kept upon it.

Full appliances for collecting and mounting insects are on hand. Fifty cabinet boxes and a large number of vials and glass jars of all sizes have been procured, as well as cork, pins, setting boards and needles, labels, cyanide boxes, naphthaline cones, apparatus for blowing caterpillars, and all other necessaries.

The physiological and zoological apparatus includes dissecting pans for zoological work, cannulas and syringes for injecting arteries and veins, full sets of dissecting instruments; and models, charts and a mounted human skeleton for the study of physiology.

ENGLISH LANGUAGE.

The faculty recognizes the fact that one of the most important purposes of these colleges is to train the student practically in the use of the English language.

Accordingly, attention is given to orthography, pronunciation the use of dictionaries, analysis of words, the analysis and synthesis of the English sentence, the writing of paragraphs, and the composing of essays.

The elements of rhetoric are taught and practically applied. Much attention is given to punctuation, the use of capitals, clearness of statement in writing, and neatness of arrangement.

In addition to one term's work in the study of English literature, and one in American literature, students are trained and assisted in the use of the great number of excellent periodicals, and literary volumes to be found in the library.

THE SPANISH LANGUAGE.

The relations existing between the United States and the Spanish-American states and provinces are already very important. We believe that these relations are to become, at no distant date, much more important. To Americans, commercially speaking, no other modern language possesses a value equal to the Spanish. Therefore, besides the equitable portion of time assigned to this branch in the regular courses of study, students who promise well in this branch will be permitted to elect to pursue the Spanish to a higher degree of proficiency, and omit such other branches of the regular course as they and the faculty may agree upon.

MILITARY TACTICS.

The Board of Regents is in correspondence with the Secretary of War in reference to the detail of an officer to take charge of this department, and we hope to be able soon to announce that satisfactory arrangements have been completed.

BOARD.

As yet, the college can do nothing at furnishing board. Students and teachers have heretofore found board in private familes at reasonable rates, and it is hoped and believed that they will continue to find ample accommodations of this kind. It is the universal testimony of educators that homes in private familes are the very best for students. Some take rooms and board themselves at reduced cost. This often works very satisfactorily.

COST OF BOARD.

During the past year the price of board with room has been from $16 to $20 per month. Occasionally where one person required a room alone, it has been $25.00 per month. Where students propose to furnish their own rooms they should provide for this before leaving home. The freight on such articles as may be needed and can generally be spared from home is very light. To either buy or rent is not economical.

Within reach of the college building, are houses for rent at reasonable prices. Many families have resided in these during the school year on purpose to give their children an opportunity to attend college. Where practicable, this plan is recommended; perhaps no other way is so satisfactory.

LABOR FOR STUDENTS.

Although we do not recommend any student to depend entirely on earning sufficient to pay his expenses through college, it is true that some young men have more than made the college expenses during the past year. These have always stood and highest in scholarship and deportment. About the building on the farm, there is always work to be done, and the policy is to give it to students in preference to any one else. There can be no question that those students who are willing to work during their hours for recreation, will become the men and women who move the world.

POLITICS AND RELIGION.

That pupils may become loyal and devoted members of our great nation, it shall be one purpose of the college to instil into their minds correct ideas of true patriotism and the duties of good citizens. Patriotism is one thing, partisanship is another, and may be a very different thing. While the former will be cultivated by all proper means, the latter will not be allowed in connection with the work of the college.

No culture is valuable that is not founded upon and accompanied by good moral character. By almost universal assent, moral character is believed to have its foundation in the cardinal principles of the Christian religion. These will ever receive the high respect to which they are entitled, but sectarianism in any form will not be tolerated. All forms of religious belief will be respected, and Catholic and Protestant, Jew and Gentile, will here find a hospitable welcome, and a home in which they will be treated as honored guests.

LITERARY SOCIETIES.

There are in the college two literary societies—the Alpha Chi, and the Cordeagian—managed by the young men and young women students respectively,—both of which, though but recently organized, have made rapid growth, and have bright prospects for the future.

The Alpha Chi society was organized October 25th, 1891, as a secret society, with some six members. On January 10th, 1892, all secrecy was abolished and the society re-organized, since which time it has made rapid and steady growth, and now has a membership of eighteen, most of whom are students in the college. The objects of the society, as stated in the constitution, are: "The free discussion of any subject coming before the meeting, for the purpose of diffusing knowledge among its members, and such other literary work as the committee on programme may prescribe." Officers are elected by ballot on the first of each quarter. The requirements for admisssion to this society are that members shall be at least sixteen years of age, and students of good standing in this institution; also the payment of one dollar as entrance fee. The regular meetings are held on Friday afternoon of each week, to which a general invitation is extended to all interested. At the close of each school year a public entertainment is given, at which the best talent the society can show is exhibited.

The Cordeagian society was organized by the young ladies of the college on September 18th, 1891. Although the first organization of the kind in the college, it readily made for itself a permanent place in the institution. The society colors are pink and blue. The programmes, given weekly, consist of debates, essays, discussions, select readings, recitations, impromptu speaking, etc.

Preparatory School.

INSTRUCTORS.

John P. Owen, Principal.
A. E. Davisson,[1] First Assistant.
Ida M. Jones, Second Assistant.
Elmer O. Wooton, B. S., Language.
Clarence T. Hagerty, B. S., Arithmetic.
Phœbe E. Haines, M. S., Drawing.
Cosette Rynerson, Instrumental Music.
J. A. Lowe,[2] Spanish.
F. F. Barker, LL. B.,[3] Arithmetic.

The facilities for obtaining an elementary education in New Mexico having heretofore been somewhat limited, it has been found necessary to connect with the college a preparatory school. It is the intention to regularly raise the standard of this school by gradually dropping the lower grades, until none shall be retained except the "A" and "B" classes.

During the coming year there will be three grades: A, B, and C. The following is the course of study for the three years:

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(1) Elected April 7, 1892.
(2) Resigned in February, 1892.
(3) Elected March 1, 1892.

"C" CLASS.

AUTUMN.	WINTER.	SPRING.
Arithmetic, pg. 8 to 130.	Arith., pg. 130 to 180.	Arith., pg. 180 and review.
Lang., Reid's In't. Les. 40.	Lang., Les. 40 to 81.	Lang., Les. 81 to end of book.
Fourth Reader.	Fourth Reader.	Fourth Reader.
Spelling from Reader.	Spelling.	Spelling.
Writing.	Writing.	Writing.
El. Geography.	El. Geography.	El. Geography.

"B" CLASS.

Arihtmetic, pg. 60 to 136.	Arithmetic, pg. 136 to 188.	Arithmetic, pg. 188 to 234.
Grammar, Les. 1 to 40.	Grammar, Les. 40 to 65.	Grammar, Les. 65 to 89.
Elementary History.	Geography, pg. 1 to 97.	Geography, complete.
Fourth Reader, finish.	Fifth Reader.	Fifth Reader.
Spelling, Les. 1 to 40.	Spelling, Les. 40 to Part II.	Spelling, Bk. 2.
Drawing, Bk. 5.	Drawing, Bk. 8.	Drawing, Bk. 8.
Writing.	Writing.	Writing.
Declamation, (1).	Declamation, (1).	Declamation, (1).

"A" CLASS.

Arithmetic, pg. 234 to 270.	Arithmetic, 270 to 334.	Arithmetic, complete.
History, pg. 1 to 197.	History complete.	Hygiene.
Grammar, Les. 89 to end of 1st Book.	Grammar, Les. 25 to 65.	Grammar, Les. 65 to 110.
Spelling, Part III.	Spelling, Part IV.	Spelling, (words of all subjects studied.)
Drawing, Bk. 9.	Fifth Reader.	Reading, 4; Composition, 1.
Fifth Reader.	Drawing, Bk. 10.	Drawing, Bk. 10.
Writing.	Writing.	Writing.
Declamation, (1).	Declamation, (1).	Declamation, (1).

Pupils who can not enter any of these classes will not be received. It has been thought best not to receive any pupils under the age of fourteen, unless said pupils reside in this immediate vicinity. The pupils of this school have the same library and lecture privileges that those of the college have. They will also be governed by the same rules, and required to drill.

The principal of this school is a professor in the college, and an experienced educator. The first assistant is a graduate of the Indiana state normal school, and has had eight years of successful experience as superintendent of graded schools. Frequent instruction by the different members of the college faculty is also given. Graduates from this school are granted certificates, which admit them to the college.

Students and patrons often importune teachers to admit applicants to advanced standing, even though it is evident that the pupils under consideration are deficient in preparation. Teachers, being desirous of pleasing when they can, often yield to these importunities and grant the supposed favor. Long experience convinces us that all parties concerned make a great mistake. Pupils enjoy what they can comprehend, and dislike what is beyond their ability. Education is a growth. It can be forced abnormally with no better results than the young oak can. Good preparation insures good progress, happy times, and satisfactory results. Deficient preparation breeds discouragement, stimulates irritability, makes the pupil dissatisfied with himself, his teachers, and the school, and in the majority of cases causes him to leave school and pass his life ignorant and without culture. Therefore, please be anxious and willing to patiently prepare before seeking admission to the Freshman class.

To guide students somewhat in their preparation, the following suggestions are offered. In arithmetic, pay particular attention to greatest common divisor, least common multiple: the fundamental processes in common and decimal fractions, especially division of decimals; true and bank discount; proportion, square and cube roots, and the metric system.

In grammar, learn the difference between simple, complex, and compound sentences; analyze each kind, and know well the difference between the object and the attribute complements; be able to use capitals and punctuation marks in simple exercises, and be more anxious to use language correctly than to recite definitions and rules.

In United States history, get clear notions of the discoveries, explorations, early struggles of the colonists, revolutionary war—its causes and results, principal events of the several administrations; causes, events, and results of the civil war, and important events that have transpired since. Learn thoroughly important facts rather than a minute detail of minor matters.

By all means strive to be a good speller. An experienced educator was accustomed to say: "It is no honor to be a *good* speller, but it is a great disgrace to be a *poor* one." Poor spelling has blighted many a good prospect.

STUDENTS—"A" CLASS.

John Lee Armstrong,	Engle.
Laura Beckwith,	Las Cruces.
Herbert E. Bryan,	Lower Peñasco.
John Bowman Bryan,	Las Cruces.
Millicent Lucy Barker,	Las Cruces.
Numa Grandjean Buchoz,	Las Cruces.
Pearl Homer Bailey,	Anthony.
Gertrude Casad,	La Mesilla.
Maggie May DeMier,	Las Cruces.
James DeMier,	Las Cruces.
Edith Marion Dawson,	Las Cruces.
Samuel Rogers French,	Mesilla Park.
Maggie French.	Mesilla Park.
Mae Gilmore,	Ft. Stanton.
Ora Gilmore,	Ft. Stanton.
Watt Gilmore.	Ft. Stanton.
Jose Gonzales,	San Marcial.
Mary Katharine Herron,	La Mesilla.
Phillip Wilder Mothersill,	Engle.
Herbert McGrath,	Lordsburg.
James Matthew McNatt,	Upper Peñasco.
Grace McCrea,	Las Cruces.
Nellie Jane Martin,	La Mesilla.
Florence May Owen,	Mesilla Park.
Clarence Edgar Rhodes,	Mescalero.
Eleanor Maude Steel,	Las Cruces.
Lillie M. Smith,	Las Cruces.
Helen Ruth Worden,	Hillsboro.

"B" CLASS—FIRST DIVISION.

Catarino Armijo,	Las Cruces.
David Cecilio Ames,	Las Cruces.
William Brazel,	Ft. Stanton.
Frank Bogardus,	Las Cruces.
Albina Coleman,	Rincon.
John Cook,	Fairview.
Edward James Coe,	Lincoln.
Edwin Eugene Casey,	Las Cruces.
George Lee Grover,	Lake Valley.
Bonnie Vine Ruth Gans,	Las Cruces.
D. Gans,	Las Cruces.
James Judson Hyatt,	Pine Springs.
Luke Mark Kennedy,	Pine Springs.
Henry Kezer,	Las Cruces.
Spiva Lane Neatherlin,	Lower Peñasco.
Henry Lemon Rynerson,	Las Cruces.

SECOND DIVISION.

Tudie Bailey,	La Mesilla.
Edward Spencer Buchoz,	Las Cruces.
Lola Jennett Bennett,	Las Cruces.
Nannie Celia Baird,	Upper Penasco.
Nettie Bullard,	Pine Springs.
Isaias Chavez,	San Marcial.
C. W. V. Daniel,	Mora.
Mary Ella Gentz,	Hillsboro.
Ula Gilmore,	Ft. Stanton.
Esther Katharine Martin,	La Mesilla.
George Washington Page,	Las Cruces.
Theodore Philips,	Lake Valley.
Lumina Perrault,	Hillsboro.
Elizabeth May Savage,	Las Cruces.
Nathan Smith,	Las Cruces.

Enrique Samaniego,	Las Cruces.
Jose Tellez,	Las Cruces.

"C" CLASS.

Isidoro Armijo, Jr.,	Las Cruces.
Maude Ann Bailey,	Ft. Stanton.
Tommie A. Bull,	Mesilla.
Eugene Baird,	Upper Peñasco.
Leslie Bryan,	Lower Peñasco.
Mark Hampton Bryan,	Lower Peñasco.
George Bullard,	Pine Springs.
Minnie Bullard,	Pine Springs.
Darwin Casad,	La Mesilla.
Eugene DeMier,	Las Cruces.
Pinkie Ford,	Las Cruces.
John Fountain,	Las Cruces.
Robert Sydney Grumbles,	White Oaks.
John Wages Hyatt,	Pine Springs.
Fred Hunter,	Durango, Col.
Jennie Johnson,	Durango, Col.
Morgan Llewellyn,	Las Cruces.
Lawrence Lapoint,	Las Cruces.
Paul McCourt,	White Oaks.
Dolores Marrufio,	Las Cruces.
Joseph Lindley Maxwell,	Tularosa.
Maude Louise McFie,	Las Cruces.
Viola V. J. Orr,	Upper Peñasco.
James Edward Owen,	Mesilla Park.
George Arthur Perrault,	Hillsboro.
Trinidad Romero,	Socorro.
Frank Schoonmaker.	El Paso, Tex.
Nona Schoonmaker,	El Paso. Tex.
Max Torres,	Socorro.

Carl Joe Sherman.	Deming.
Olga Grove,	Pine Springs.
Herbert Mason Grove,	Pine Springs.
Matt Gilmore,	Ft. Stanton.

‘D” CLASS.

Daniel Ackenback,	Las Cruces.
Alfred Oliver Perrault,	Hillsboro.
Edward Albert Perrault,	Hillsboro.
Albert V. Reed,	Las Cruces.
Francisco Sarabia,	Las Cruces.
Matthew Steel,	Las Cruces.
Lawson Lowe,	Las Cruces.
Antonio Velarde,	Meoqui, Chihuahua.
Jesus Velarde,	Meoqui, Chihuahua.

SPECIALS.

Edwin Quinn,	Gallup.
John Kennedy,	Las Cruces

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The Agricultural Experiment Station.

STATION STAFF. [1]

Board of Control: The Board of Regents.

Hiram Hadley, A.M., Director.

Ainsworth E. Blount, A.M., Horticulturist and Agriculturist.

Elmer O. Wooton, B.S., Botanist.

C. H. Tyler Townsend, Entomologist and Zoologist.

Arthur Goss, B.S., A.C., Chemist.

Harvey H. Griffin, B.S., First Assistant to Agriculturist and Horticulturist.

J. B. Sloan, Meteorologist. [2]

Watt Gilmore, Assistant in Meteorology.

By the congressional act of 1887, a "department" of agricultural colleges was endowed, having for its purpose the performing of experiments of value to agriculture and horticulture, and the diffusing of valuable information among the people.

This department of the college is in successful operation. The farm consists of ninety acres of excellent land under irrigation, and a much larger amount of mesa land. At great outlay of labor, the former has been graded to an almost perfect surface.

A great number of valuable horticultural and agricultural experiments are in process of testing, and more are being constantly begun. During a large portion of the year, students have opportunites to labor on this farm, thus enabling them to defray a considerable portion of their expenses. Besides this, they are under the direct guidance and instruction of educated

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(1) Arranged in order of election.

(2) Resigned March 1, 1892.

horticulturists and agriculturists of large experience. This alone is a valuable consideration.

Of the mesa land, thirty acres have been cleared of mesquite and put into good condition for experimentation. A portion of this is being used without irrigation, and a portion of the remainder is supplied with water raised from wells by means of steam power. Thus grape vines, and fruit, shade, and ornamental trees are now growing upon the college campus. We shall soon be able to report upon the feasibility and value of this project.

A large amount of entomological work has been done which promises results of the greatest practical value to the horticulturist and agriculturist. It has been demonstrated that New Mexico is comparatively unworked in this direction, and emphasizes the great value of such work to the Territory at large, in order that our injurious insects may be recognized and our farmers and fruit-growers warned against them.

Five bulletins have been issued on topics of interest to farmers, and more are in preparation. Students of the college have the means of becoming educated in these most fascinating and promising occupations.

Errata.

Page 3, line 14 from top, *for* M. E. *read* M.M. E.

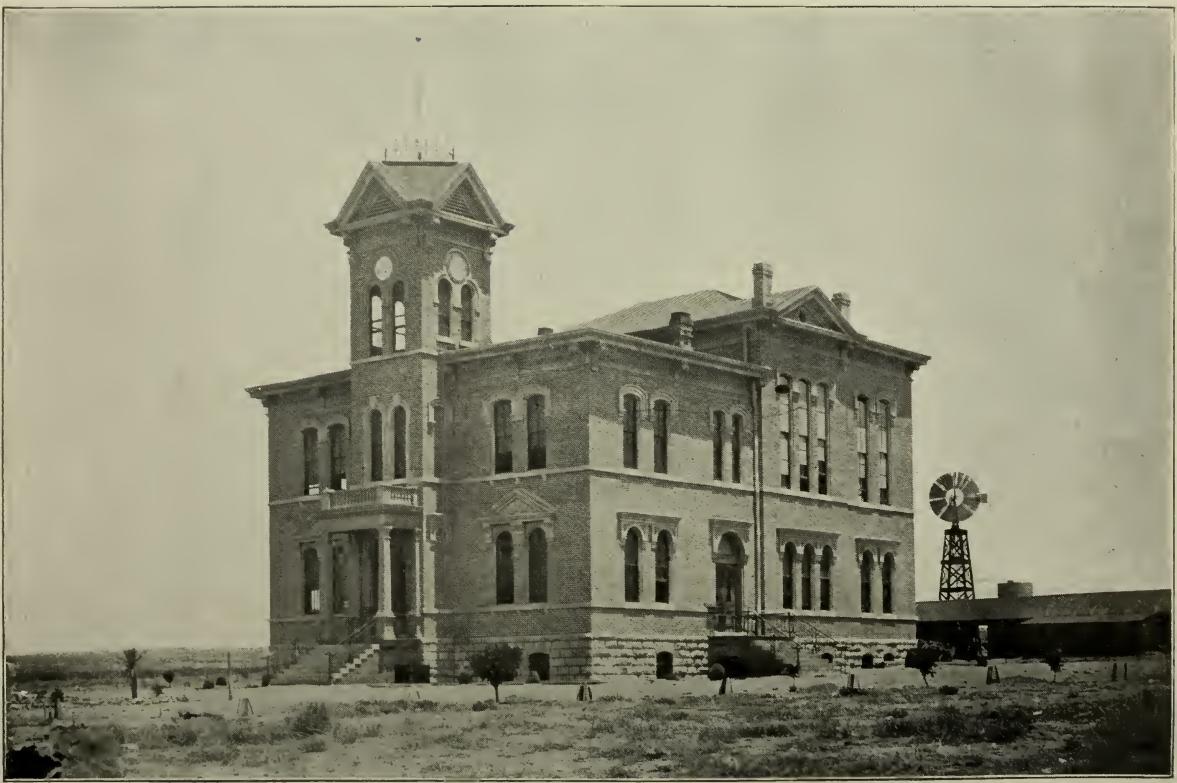
Page 8, line 1 from top, *for* Chemical Agriculture *read* Agricultural Chemistry.

Page 26, line 1 from top, *read* trigonometrical surveying and leveling the second term, and by leveling and topographical surveying the third term,

Page 26, line 5 from top, *for* tremonts *read* turnouts.

Page 39, line 3 from top, *for* 8 *read* 88.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS



MAIN COLLEGE BUILDING.

FOURTH ANNUAL

CATALOGUE

OF THE

NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS,

LAS CRUCES.

1893-1894.

ANNOUNCEMENTS FOR 1894-1895.

LAS CRUCES, N. M.
INDEPENDENT DEMOCRAT.
1894.

Calendar for 1894-5.

Examination of new students for admission, Saturday, September 1, 1894.

First term begins Monday, September 3, 1894.

First term ends Wednesday, November 28, 1894.

Second term begins Monday, December 3, 1894.

Holiday vacation begins Saturday, December 22, 1894, and ends Sunday, January 6, 1895.

Second term ends Friday, March 15, 1895.

Third term begins Monday, March 18, 1895.

Third term ends Friday, June 14, 1895.

Re-examinations will be held Saturday, September 1, 1894; December 1, 1894; and March 9, 1895.

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Board of Regents.

William T. Thornton, Governor, *Ex-Officio.*
Amado Chaves, Superintendent Public Instruction, *Ex-Officio.*
Demetrio Chavez, Mesilla; term expires 1894.
John R. McFie, Las Cruces; term expires 1895.
J. D. W. Veeder, Las Vegas; term expires 1896.
Robert Black, Silver City; term expires 1897.
Thomas J. Bull, Mesilla; term expires 1898.

OFFICERS OF THE BOARD.

Thomas J. Bull, President.
Demetrio Chavez, Secretary and Treasurer.

Faculty and Other Officers.

1893-1894.

[Arranged in groups in order of seniority of appointment.]

Hiram Hadley, A.M., President.

John P. Owen, Vice President and Professor of History and Political Science, and in charge of Literature.

Ainsworth E. Blount, A.M., Professor of Agriculture and Horticulture.

Elmer O. Wooton, B.S., Professor of Botany, and in charge of Physics and Geology.

Clarence T. Hagerty, B.S., Professor of Mathematics, and in charge of Civil Engineering.

August J. Wiechardt, M.M.E., Professor of Mechanical Engineering.

Arthur Goss, M.S., A.C., Professor of Chemistry.

Albert E. Davisson, Principal of Preparatory Department.

T. D. A. Cockerell, Professor of Entomology, Zoölogy and Physiology.

Frederick F. Barker, LL.B., Instructor in Languages.

Ida M. Jones, Assistant in Preparatory Department.

Madam Lola Dorego, Instructor in Music.

Frank E. Lester, Librarian and College Clerk.

Harvey H. Griffin, B.S., Assistant in Agriculture and Horticulture.

R. Fred Hare, M.S., Assistant in Chemistry.

Charles Mills, Foreman of Wood Shop.

Faculty: 1894-1895.

[Arranged in groups in order of seniority of appointment, except the President.]

SAMUEL P. McCREA,
President and Professor of Psychology and Logic.

JOHN P. OWEN,
Vice President and Professor of History and Political Science,
and in charge of Literature.

AINSWORTH E. BLOUNT, A.M.,
Professor of Agriculture and Horticulture.

ELMER O. WOOTON, B.S.,
Professor of Botany, and in charge of Geology and Physics.

CLARENCE T. HAGERTY, B.S.,
Professor of Mathematics and Astronomy.

ARTHUR GOSS, M.S., A.C.,
Professor of Chemistry.

ALBERT E. DAVISSON,
Principal of Preparatory Department and in charge of Latin.

T. D. A. COCKERELL,
Professor of Entomology, Zoölogy, and Physiology.

HORACE ROPES, B.S.,
Professor of Civil and Mechanical Engineering.

Instructors and Assistants.

IDA M. JONES,
Instructor in Spanish and Assistant in Preparatory Department.

MADAM LOLA DOREGO,
Instructor in Music, Elocution, and Reading.

FRANK E. LESTER,
Instructor in Stenography and Typewriting, and College Clerk.

R. FRED HARE, M.S.,
Assistant in Chemistry.

J. A. CHRISTMAN,
Instructor in Book-keeping, Commercial Law, and Penmanship.

J. P. STEWART,
Instructor in Telegraphy.

FABIAN GARCIA, B.S.,
Assistant in Agriculture and Horticulture.

CHARLES MILLS,
Foreman of Wood Shop and Foundry.

Student Employees.

WATT GILMORE, Assistant to Meteorologist.
A. M. HOLT, Librarian.
MAE GILMORE, Assistant to College Clerk.
ARTHUR WILLIAMS, Assistant to Horticulturist.

Faculty Committees.

	For 1893-1894.	*For 1894-1895.*
JUDICIARY.	J. P. Owen, *Chairman*, A. E. Blount, Arthur Goss.	Arthur Goss, *Chairman*, A. E. Blount, A. E. Davisson.
COURSE OF STUDY.	E. O. Wooton, *Chairman*, A. J. Wiechardt, J. P. Owen.	J. P. Owen, *Chairman*, C. T. Hagerty, Horace Ropes.
LIBRARY.	Arthur Goss, *Chairman*, E. O. Wooton, A. E. Davisson.	E. O. Wooton, *Chairman*, J. P. Owen, Arthur Goss.
PUBLIC GROUNDS AND COLLEGE FUTURE.	A. E. Blount, *Chairman*, J. P. Owen, C. T. Hagerty.	A. E. Blount, *Chairman*, Horace Ropes, T. D. A. Cockerell.
CATALOGUE.	A. J. Wiechardt, *Chairman*, A. E. Davisson, C. T. Hagerty.	C. T. Hagerty, *Chairman*, A. E. Davisson, E. O. Wooton.
BOARDING.	C. T. Hagerty, *Chairman*, A. E. Blount, Arthur Goss.	T. D. A. Cockerell, *Chair'n*, J. P. Owen, Arthur Goss.
ENTERTAINMENT.	A. E. Davisson, *Chairman*, E. O. Wooton, A. J. Wiechardt.	A. E. Davisson, *Chairman*, C. T. Hagerty, E. O. Wooton.
LEGISLATION FOR COLLEGE.		Horace Ropes, *Chairman*, A. E. Blount, J. P. Owen.

NOTE.—The President of the Faculty is Ex-Officio member of all committees.

General Statement.

LOCATION.

The New Mexico College of Agriculture and Mechanic Arts is beautifully situated about two miles south-east of Las Cruces, Doña Ana County. Its location in the famous Mesilla Valley, favorably known since the Gadsden Purchase, gives it the best advantages for agricultural and horticultural experiments.

Las Cruces is on the main line of the Atchison, Topeka & Santa Fé Railroad, and is accessible from the different parts of the Territory. It has a population of about 2500 people, and all lines of business are carried on. It has good public schools, several mission schools, and a Catholic academy for the education of girls. The Presbyterians, Methodists, and Catholics have large congregations and fine churches, and students are welcomed to their services. The town is noted for being the largest fruit and alfalfa shipping point in the Territory, and is rapidly becoming known as one of the finest winter health resorts in the whole country. About two miles away is the quaint old town of Mesilla, long the most noted point in this section of the country, and at one time the seat of government for the whole of the present territory of Arizona, then a part of Doña Ana County.

ORIGIN.

The New Mexico College of Agriculture and Mechanic Arts, though under a slightly different name, was established by the Twenty-eighth Legislative Assembly of New Mexico by Act approved February 28, 1889. The purpose of the institution is clearly defined in Section 19, of this Act:—

"The Agricultural College created and established by this Act, shall be non-sectarian in character, and devoted to practical instruction in agriculture, mechanic arts, natural sciences connected therewith, as well as a thorough course of instruction in all branches of learning bearing upon agriculture and other industrial pursuits."

The branches of learning in which instruction may be given are set forth as follows in Section 20 of the same Act:—

"The course of instruction of the College hereby created shall embrace the English language, literature, mathematics, philosophy, civil engineering, chemistry, and animal and vegetable anatomy and physiology, and political, rural, and household economy, horticulture, moral philosophy, history, mechanics, and such other sciences and courses of instruction as shall be prescribed by the regents of this institution of learning."

By Section 25 of the same Act the assent of the Legislative Assembly was given to the establishment of experiment stations within the Territory of New Mexico in connection with the Agricultural College in pursuance of the Act of Congress approved March 2, 1887.

DESIGN.

The Acts of Congress, making donations of land and money to agricultural colleges, show plainly a purpose to provide facilities for instruction in certain specific lines; and, with such purpose, the act of the Legislative Assembly is designed to harmonize. It is clear that the design throughout has been to provide for the youth a liberal education, which is of the most practical character. The mind must be trained to correct thinking, the soul to right action, and the hand to some form of labor. It is only by a training adapted to the powers of mind, soul, and body, that a harmonious development of the whole being can be secured. If to this training is added a proper sense of the nobility of labor, a just appreciation of the rights and duties of American citizenship, and an inspiration to do and to be something, we have every reason to believe there will follow a life of true and capable service in some line of usefulness.

INCOME.

To furnish the necessary facilities for such a broad and thorough training requires much time and thought, and a great deal of money. This institution has already a liberal income to apply in the line of instruction and experiment; but the territory must furnish all necessary buildings to properly use the funds so generously donated by the United States, and to provide for instruction in some branches not included under the Hatch or Morrill Acts. The revenues of this college are derived from the following sources:—

1. From students' fees.
2. From the sale of products of the college farm.
3. From territorial appropriations.
4. From the U. S. under Act of March 2, 1887—the Hatch fund.
5. From the U. S. under Act of Aug. 30, 1890—the Morrill fund.

The money received from students and from the sale of products from the college farm, has, so far, been very limited in amount; and has been used principally for paying expenses not provided for by either of the acts of congress. For the year ending June 30, 1893, the fees were as follows: Tuition, $547.72; Music, $359.35. From the sale of farm products was received $115, making a total of $1022.07.

TERRITORIAL APPROPRIATIONS AND LEGISLATION.

The Act creating the institution provided for an annual levy of one-fifth of a mill, commencing with the year 1889. This levy has, so far, yielded an annual income of about $7,000—which has been insufficient to provide the necessary buildings to carry on the work of the college and station in a proper manner. To June 30, 1893, the Territory has spent on this college about $27000. For the period 1890-1894 the U. S. appropriated for it $155000, of which a considerable balance is yet on hand.

The Thirtieth Legislative Assembly passed an act, approved February 13, 1893, creating a Sub-Agricultural Experiment Station and established the same in San Juan Co. For the purpose of erecting buildings thereon, and for other purposes, the sum of $5000 was appropriated out of the War Tax of 1861 refunded by the general goverment. This Sub-Station has been located in the vicinity of Aztec in said county upon a tract of 100 acres of irrigated land donated to the Agricultural College. The same Legislative Assembly passed an act, approved Feb. 23, 1893, providing for the establishment of two Branch Agricultural Experiment Stations. One of these has been located near Las Vegas upon a tract of 100 acres of irrigated land which has been donated to the Agricultural College. The other has been recently located at Roswell, in the Pecos valley. For the purpose of erecting buildings, etc., upon the land donated for each of these branch stations the sum of $2500 was ordered to be used by the Board of Regents. For the construction of additional buildings, (shops for the Mechanical Department at the Agricultural College) an additional levy of one-fourth of a mill was ordered to be collected for the year begining March 4, 1893. It is thought this levy will yield about $9000. This would give to the college about $4000 for the erection of the buildings so much needed.

At the same session of the Legislative Assembly an act was passed, approved Feb. 23, 1893, creating a Sub-Agricultural Experiment Station in Taos County, and ordering a levy for the year begining March 4, 1894, of $2500 for the construction of buildings, etc., upon a tract of 100 acres of irrigated land to be donated to the Agricultural College. As this act is not in force except as to time of tax levy until after Jan. 1, 1895, nothing has yet been done as to the definite location of this sub-station.

In each of these several acts there is a section authorizing the Board of Regents to apply to the support and maintenance of the branch and sub-stations, such a part of the funds received from the United States for Agricultural Experiment Stations as can be applied to them *in justice* to the Agricultural College at Las Cruces. It is felt that as many branch and sub-stations have already been establshed by the Legislative Assembly as can be provided for. Those already located, and yet to be located, certainly cover the leading varieties of soil and climate found in the Territory. The Board of Regents intend to utilize them as rapidly as funds can be collected for that purpose.

THE NEEDS OF THE COLLEGE.

The most urgent needs of the college are *more buildings.* If this college shall have a fair opportunity to grow, the next Legislative Assembly must make provision for at least two buildings; first, a Boarding House large enough, and properly built and arranged, to furnish meals for all who desire, and rooms for a limited number of young women; second, a Hall furnishing rooms for young men, who would take meals at the Boarding House. The main College building should be relieved from its present crowded condition. There is no more room in it than is needed for purposes of instruction. It is to be hoped that the Legislative Assembly, will, at an early date, make provision for a Station building to be used by the various Science Departments for laboratory purposes.

THE HATCH FUND.

The U. S. Law of March 2, 1887, established Experiment Stations in connection with Agricultural Colleges in the various states and territories. For the support of each station there is set apart the sum of $15000, which is payable quarterly. This money must be used for "paying the necessary expenses of conducting investigations and experiments, and printing and distributing the results." Bulletins showing progress must be printed each quarter, and sent to each newspaper in the territory and to all farmers who apply for them. This fund first became available for this College in 1889-90 to the amount of $10,000. Since July 1, 1890, $15,000 a year has been received. After the first year only five per cent of this fund can be used to erect, enlarge, or repair buildings for the use of the Experiment Station. Any unexpended balance in this fund at the close of the fiscal year must be covered into the U. S. Treasury.

THE MORRILL FUND.

This fund was created by the U. S. law of Aug. 30, 1890, for the more complete endowment and support of the Colleges of Agriculture and Mechanic Arts in the several states and territories. It is paid over to them before July 31, of each year. The College received this fund first in 1890 to the amount of $15000. For the coming fiscal year this fund will be $20000, and will increase $1000 a year until it reaches $25000 at which sum it will remain. This fund can only be applied "to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their application in the industries of life, and to the facilities for such instruction." No part of this fund can be used in any way for building purposes.

ENDOWMENT.

When New Mexico becomes a state, under the act of Congress, approved July 2, 1862, it will receive a grant of land for endowing the Agricultural College amounting to 30000 acres for each Senator and Representative in Congress. This would now entitle us to 90000 acres. If this amount of land be carefully located, it can be made to yield the college in time a fair endowment. The amount of money derived from the sale of this land, without any deduction for expenses, must be safely invested in such manner as to yield not less than five per cent revenue. The interest only can be used for the support of the college.

Requirements for Admission.

To enter the Freshman class of the college, students must be able to pass sastisfactory examinations in reading, spelling, arithmetic complete, including the metric system, elementary algebra, U. S. history, geography, hygiene as required by the U. S. Law for the Territories, grammar complete, composition and the elements of rhetoric. The purpose of examinations will be to test the working power of the applicants, and their ability to enter upon the proposed work. Students who can pass the above examinations are well equipped for the ordinary duties of life, and to enter successfully upon the college courses. Without this preparation they can not succeed in college. Therefore, both in the interests of the college and the student, we shall insist that this preparation be thoroughly made.

All applicants for admission to the college must be at least sixteen years of age, and must furnish satisfactory evidence of good moral character. No person known to indulge in intoxicating drinks, or to visit questionable resorts will be admitted.

The President and Faculty of this college hope to be able to effect an arrangement before Jan. 1, 1895, by which those High Schools of the Territory, whose courses of study and methods of instruction are found to be satisfactory, shall be commissioned by the Board of Regents to prepare students for admission to this institution.

The graduates of these commissioned High Schools will be admitted to the Freshman class of the college without examination. This plan has proved highly satisfactory in many of the older states, and there is no doubt that such an arrangement between the High Schools and the College will prove mutually beneficial, and will do much to unify our new school system. The active co-operation of the High Schools of this Territory is cordially solicited in the perfecting of this plan.

Until an arrangement can be made for accrediting the work of the various High Schools, pupils entering the college, should bring with them a certificate stating clearly and definitely the amount and quality of the work done. These certificates will receive due consideration. Students from other colleges must bring certificates of honorable dismissal.

Courses of Study.

The following Collegiate Courses of study have been provided:—

I. A Course in Agriculture.
II. A Course in Civil Engineering.
III. A Course in Mechanical Engineering.
IV. A Course in Science.

These courses with a very few exceptions are alike in the Freshman and Sophomore years. For these years, the branches of study have been selected for their value in attaining mental culture, in widening the student's intellectual horizon and in furnishing the necessary information for the strictly technical studies of the Junior and Senior years.

Each course includes training in Language, Literature, History and Physics. These subjects are especially valuable for their influence in the formation of character and of correct views of life and its purposes. They develop breadth of view and liberality of opinion, both of which are necessary for rapid advancement in any field of labor. An attempt is made to carefully supplement theory with practice in all courses.

Special courses will not be encouraged by the faculty. With the variety of regular courses given, there is little need for them. Students of mature years, who are not able to remain long enough to take a full course, may be allowed to take special courses. Such students must have sufficient scholarship to carry on the work they undertake, their work must not conflict with that in the regular courses, and must be sufficient to keep them fully employed. The faculty reserves the right to refuse such requests, or to order such modifications as may seem best for the student and college. No degrees are granted for special work, but those who perform such work in a satisfactory manner will receive certificates.

In the tabular form of the Course of Study on the succeeding pages the figure to the right of each subject denotes the number of exercises per week.

Practice exercises are one hour and forty minutes long; all others, fifty minutes.

Degrees.

The degree of *Bachelor of Science* (*B.S.*) will be conferred on students who complete the prescribed Course in Agriculture, or Course in Science.

The degree of *Bachelor of Civil Engineering* (*B.C.E.*) will be conferred on students who complete the prescribed Course in Civil Engineering.

The degree of *Bachelor of Mechanical Engineering* (*B.M.E.*) will be conferred on students who complete the prescribed Course in Mechanical Engineering.

COURSES OF STUDY.—*Freshman Year.*

	AGRICULTURAL.		MECHANICAL ENGINEER'G.		CIVIL ENGINEERING.		SCIENTIFIC.	
First Term.	Geometry	5	Geometry	5	Geometry	5	Geometry	5
	Rhetoric	5	Rhetoric	5	Rhetoric	5	Rhetoric	5
	Ancient History	5	Ancient History	5	Ancient History	5	Ancient History	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Wood Turning	3	Wood Turning	3	Wood Turning	3	Wood Turning	3
	Farm Work	2	Drawing	2	Drawing	2	Drawing*	2
							Literary Reading and Comp.	5
Second Term.	Geometry	5	Geometry	5	Geometry	5	Geometry	5
	Med. and Mod. History	5	Med. and Mod. History	5	Med. and Mod. History	5	Med. and Mod. History	5
	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Carpentry and Joinery	3	Carpentry and Joinery	3	Carpentry and Joinery	3	Carpentry and Joinery	3
	Farm Work	2	Drawing	2	Drawing	2	Drawing*	2
							Literary Reading and Comp.	5
Third Term.	Geometry	5	Geometry	5	Geometry	5	Geometry	5
	English History	5	Descriptive Geometry	5	Descriptive Geometry	5	English History	5
	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Blacksmithing	3	Blacksmithing	3	Blacksmithing	3	Blacksmithing	3
	Garden Work		Drawing	2	Drawing	2	Drawing*	2
							Literary Reading and Comp.	5

* Optional with Literary Reading and Composition.

COURSES OF STUDY.—*Sophomore Year.*

	AGRICULTURAL.		MECHANICAL ENGINEER'G.		CIVIL ENGINEERING.		SCIENTIFIC.	
First Term.	Advanced Algebra	5	Advanced Algebra	5	Advanced Algebra	5	Advanced Algebra	5
	Physics	5	Physics	5	Physics	5	Physics	5
	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5
	English Literature	4	English Literature	4	English Literature	4	English Literature	4
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Horticulture	2	Drawing	2	Drawing	2	Literary Reading & Essays	2
Second Term.	Trigonometry	5	Trigonometry	5	Trigonometry	5	Trigonometry	5
	Physics	4	Physics	4	Physics	4	Physics	4
	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5
	English Literature	4	English Literature	4	English Literature	4	English Literature	4
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Animal Husbandry & Hort.	2	Drawing	2	Drawing	2	Literary Reading & Essays	2
Third Term.	Botany	5	Higher Algebra	4	Higher Algebra	4	Botany	5
	Physics	4	Physics	4	Physics	4	Physics	4
	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5	Spanish or Latin	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	Surveying	2	Elementary Mechanics	4	Elementary Mechanics	4	Surveying	2
					Surveying	2		
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Fruit Culture	2	Graphic Statics of Mechan.	4	Surveying	2	Literary Reading & Essays	*5
	Surveying	2					Surveying	2

* Optional with Surveying.

COURSES OF STUDY.—*Junior Year.*

	AGRICULTURAL.		MECHANICAL ENGINEER'G.		CIVIL ENGINEERING.		SCIENTIFIC.	
First Term.	American Literature	5	Analytic Geometry	5	Analytic Geometry	5	Analytic Geometry	5
	Civics	5	Civics	5	Civics	5	Civics	5
	Physiology	5	Steam and Boilers	5	Surveying	3	Physiology	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	Agriculture	3	Engineering Journals	1	Engineering Journals	1	American Literature	5
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Farm Work	2	Machine Shop	5	Surveying	4	English Classics	*5
			Elementary Machine Design		Drawing	2		
Second Term.	Zoology, Systematic	5	Analytic Geometry, 5 weeks	5	Analytic Geometry, 5 wks	5	Analytic Geometry, 5 wks	5
	Chemistry	10	Calculus, 8 weeks		Calculus, 8 wks		Calculus, 8 wks	
	English and Elocution	1	Chemistry	10	Chemistry	10	Chemistry	10
	Botany	2	English and Elocution	1	English and Elocution	1	Zoology, Systematic	5
			Engineering Journals	1	Engineering Journals	1	Botany	2
					Surveying	2		
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Dairying and Horticulture	3	Foundry	5	Surveying and Mapping	3	English Classics	*5
			Elementary Machine Design					
Third Term.	Constitutional & Polit. Hist.	5	Calculus	5	Calculus	5	Calculus	5
	Astronomy	5	Kinematics	5	Astronomy	5	Astronomy	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
			Engineering Journals	1	Engineering Journals	1	Constitutional & Polit. Hist.	*5
					Surveying	2		
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Chemical Laboratory	5	Chemical Laboratory	5	Chemical Laboratory	5	Chemical Laboratory	5
	Botanical Laboratory	5	Pattern Making	5	Surveying and Mapping	3	Botanical Laboratory	5
			Machine Design					

* Optional with Analytic Geometry and Calculus.

COURSES OF STUDY.—*Senior Year.*

	AGRICULTURAL.		MECHANICAL ENGINEER'G.		CIVIL ENGINEERING.		SCIENTIFIC.	
First Term.	Psychology	5*	Analytical Mechanics	5	Analytical Mechanics	5	Psychology	5
	Geology	5	Thermodynamics	5	Geology	5	Geology	5
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	Horticulture	5	Engineering Journals	1	Engineering Journals	1		
	Agriculture	5*			Water Supply and Irrigation	5		
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE	
	Zoology and Comp. Anat.	5	Shop	5	Graphic Statics	2	Zoology and Compar. Anat.	5
	Chemistry or Botany	5*	Machine Design	5	Surveying and Mapping	3	Chemistry, Bot., or Astron.	5
Second Term.	Veterinary Science	5	Analytical Mechanics	5	Analytical Mechanics	5		
	Geology	5	Strength of Materials	4	Strength of Materials	4	Geology	5
	Political Economy	5*	Steam Engine	5	Political Economy	5	Political Economy	5
	Stock	5	Engineering Journals	1	Engineering Journals	1		
	Horticulture	5*			Geology	5		
	English and Elocution	1	English and Elocution	1	English and Elocution	1	English and Elocution	1
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Chemistry, Botany, or Zoology	5*	Engineering Laboratory	2	Engineering Laboratory	1	Chemistry or Botany	5
			Steam Engine Design	4			Zoology or Physics	5
Third Term.	Entomology	5	Hydraulics	5	Hydraulics	5	Entomology	5*
	Logic	5*	Engineering Structures	5	Engineering Structures	5	Logic	5
	Agriculture	5*	Engineering Journals	1	Engineering Journals	1	English and Elocution	1
	English and Elocution	1					History of Civilization	5
	Economic Botany	5					Geology, Mineralogy & Metallurgy	5*
	PRACTICE.		PRACTICE.		PRACTICE.		PRACTICE.	
	Chemistry, Botany, or Zoology	5*	Engineering Laboratory	2	Engineering Laboratory	2	Chemistry, Botany, or Zoology	5*
			Valve and Engine Design	5	Engineering Design	5		
	Thesis	3	Thesis	3	Thesis	3	Thesis	3

* One required.

Departments of Instruction.

Agriculture and Horticulture.

A. E. BLOUNT, PROFESSOR.

In this department the purpose is not to make complete farmers, fruit-growers, and stock-breeders—full-fledged and proficient in all lines of practice—but men, intelligent citizens, with correct rudimentary knowledge so well established that it may serve them as a sure groundwork for future acquirements and future development. Agriculture being the basis of all industrial pursuits, a wide range of instruction on both general and special subjects is absolutely necessary.

In the outline submitted we recognize the fact that education is always a help to the farmer. He may be more successful after a thorough training in any line of study—classical, scientific, or technical—the education only making more effective the powers of the mind. The best years of his life for college work are the best for acquiring a business knowledge and training.

The course proposes to furnish to all who wish to be farmers, in the true sense of the term, an opportunity to inform and acquaint themselves with the many scientific questions pertaining to the orchard, vineyard, garden, field, and the teachings which their work daily brings before them, and to assist them in working out many problems yet unsolved.

During the Freshman and Sophomore years and the first two terms of the Junior year, students receive practical instruction on the farm. This includes the preparation of the soil for seed, planting, cultivating, harvesting, root-pruning, and a study of the various soils.

In the first term of the Sophomore year, seedlings are transferred to the nursery and small fruits are divided and reset. In the second term of this year, students will practice root-grafting and will receive instruction in the care of domestic animals. In the third term, the pruning of fruit-trees for an increased growth of wood, and of forest and shade-trees is begun; grafting will also receive attention.

In the first term of the Junior year, students will receive practical instruction in budding, pruning for fruit, and in the preparation of roots and scions for root-grafting; lectures will be given on the history and development of Agriculture as an art and as a science, its relation to other arts and sciences, and to our national prosperity; also on the following subjects: seed-growing, seed-testing, manure, fertilizers, floriculture, buildings, fences, implements, and farm accounts.

During the Senior year, lectures will be given on the following subjects: horticulture, agriculture, and stock. Under horticulture will be treated budding, grafting, layering, pruning, care and cultivation of fruit trees, vines and small fruits; in agriculture, the instruction will include soils, seeding, cereals, rotation of crops, irrigation, and drainage; under the head of stock, these subjects will receive attention: stock-feeding and the various breeds of cattle, horses, sheep, and swine.

Students desiring advanced work in Agriculture and Horticulture, may, in the Senior year, take such work instead of psychology, political economy, and logic.

Botany.

E. O. WOOTON, PROFESSOR.

Elementary Botany.—During the third term, Sophomores of the Agricultural and Scientific courses will devote five recitation periods per week to the study of phænogamic botany, principally. A part of the time will be used in studying briefly the general features of cryptogams, as well as the more important and introductory points of physiological botany.

Plants which are typical of the various grander divisions of the plant kingdom will be analyzed and classified as a part of the class work, and all students will be required to prepare and name a few specimens for the college herbarium.

In this work Gray's text-book is taken as the guide, and Coulter's Flora of the Rocky Mountain Region is used for analysis and classification.

Advanced Botany.—Juniors of the above mentioned courses will devote two periods per week in the second term to the further study of cryptogamic botany, special attention being paid to the classification of plants.

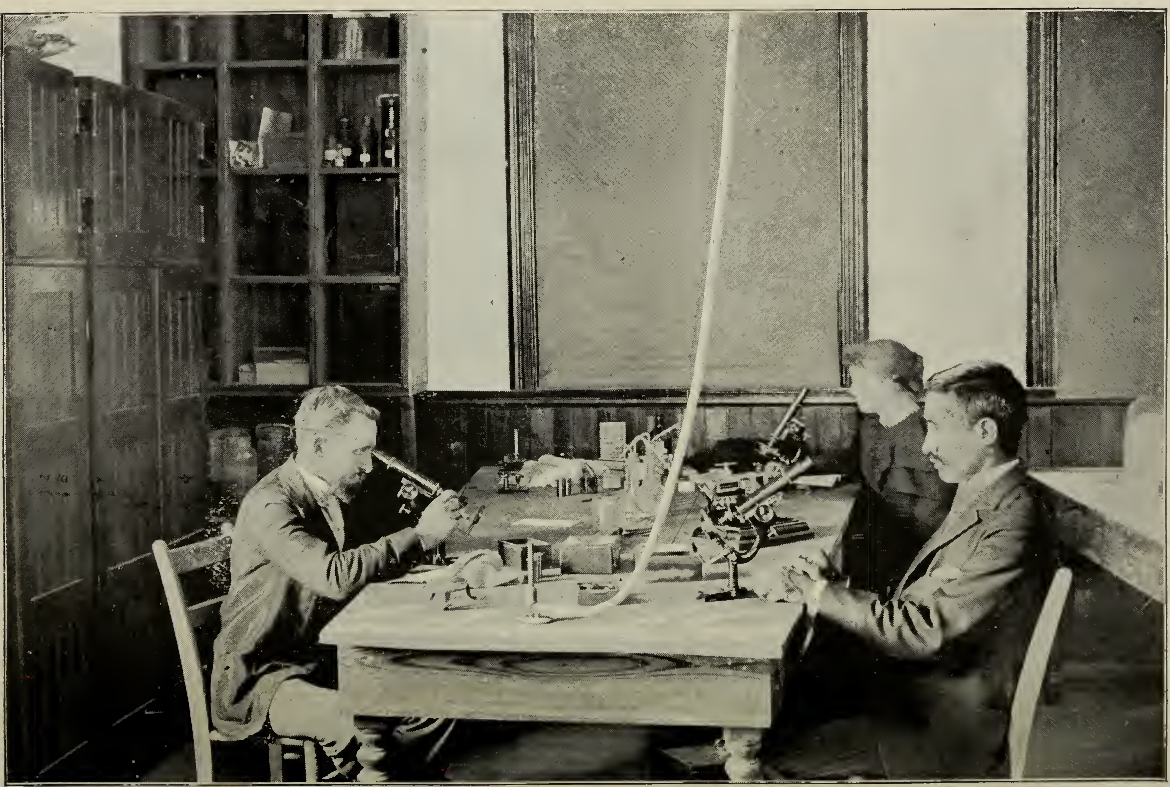
During the third term of this year the same students will spend two periods, four times per week, in the laboratory studying the minute anatomy of plants.

For this work the college is supplied with Bausch and Lomb's compound "Model" microscopes, with magnifying power of from 50 to 300 diameters, as well as books of reference, reagents, microtome, and all other apparatus necessary.

The method of work will be the study, from living and alcoholic specimens, of the simple vegetable cell and all its various modifications, cell contents, tissues, and tissue systems of the plant. This will include the simplest as well as the most complex forms of plant-life and will be so arranged as to give the student a good outline view of the whole Vegetable Kingdom.

The intention is to attempt nothing but a good foundation for future work of any special line, leaving to the student the option of carrying on the work, or not, as he may choose.

The design of the course is to arouse interest in and induce careful observation of animate nature around us, and at the same time to teach the student to draw conclusions from observations, and to classify ideas as well as objects.



BOTANICAL LABORATORY.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS

Economic Botany.—Seniors of the Agricultural course will spend five recitation periods per week during the spring term studying that part of cryptogamic botany which is of special commercial importance to the farmer and horticulturist.

The work of this class will be the study of injurious fungi and the remedies for them; the best means of applying fungicides, the times of application, the best methods of this new science which has been worked out by careful experimentation within recent years.

The whole subject will be made as eminently practical as possible in the time alloted and with the facilities at hand.

For the first term's work in botany, the students have access to the department library which contains a large number of valuable books of reference. Among others may be found Chapman's Flora of the Southern United States, Gray's Flora of North America, the Botany of King's Survey of the 40th Parallel, Botany of Wheeler's Survey of the 100th Meridian, Botany of the Mexican Boundary Survey, Botany of the Pacific Railroad Survey, Genera Plantarum, and many other valuable books on organography and systematic botany. For comparative study and reference students also have access to the college herbarium, which now contains specimens from many parts of the United States.

Students in the advanced botany class will find some of the standard works on physiological and histological botany in the library; such as, Sach's on the Physiology of Plants, Strasburger's Manual of Histology, DeBarry on Morphology and Biology of the Fungi, Mycetozoa, and Bacteria; the same author on Comparative Anatomy of Phanerogams and Ferns, Crookshank on Bacteria, and many others.

A fee of one dollar ($1.00) will be charged students of the advanced class to compensate for the wear on the instruments and the slight breakages in this work. Any serious damage done to the instruments which is due to carelessness on the part of the student must of course be made good by him.

Geology.—During the first and second terms of the Senior year, students of the Agricultural, Civil Engineering, and Scientific Courses will recite five times weekly in geology.

The first term will be devoted to the study of physiographic, structural, and dynamical geology; and considerable attention will be given to the subject of mineralogy in a general way. The second term is devoted entirely to the subject of historical geology, and paleontology.

This department is equipped with the beginnings of a cabinet, in which are to be found some very good mineralogical specimens and quite a number of fossils of various geological ages.

Physics.—Sophomores of all courses are required to recite five times weekly the first term and four times weekly during the second and third terms upon text-book work in Physics.

The work of the first term will consist of the discussion and proof of the laws of matter, dynamics, and heat, as given in Gage's Elements of Physics. Considerable attention will be given to the practical mathematical application of the principles deduced.

The entire time of the second term will be devoted to the subject of electricity while the subjects of sound and light will be the work of the third term.

The college is not yet supplied with a physical laboratory but is equipped with considerable apparatus with which the simpler experiments will be performed by students and teacher.

Chemistry.

ARTHUR GOSS, PROFESSOR.

Required Chemistry.—The course in chemistry, taken by all regular college students, occupies the second and third terms of the Junior year.

The work during the second term of the Junior year will consist of a study of the fundamental principles of the science as outlined in Remsen's chemistry. This work will be supplemented by frequent exercises in the laboratory by the class under the direction of the Professor in charge. The time required of the students this term, besides that necessary for the preparation of lessons, will be two hours daily.

During the third term of the Junior year two hours daily will be spent in the laboratory, in the study of qualitative analysis. Each student will be provided with a complete set of apparatus and reagents by means of which any ordinary compound may be analyzed. The student will thus learn by actual practice the various methods of separating the different elements. Hill's qualitative analysis will be used as a guide in this work.

Elective Chemistry.—Chemistry has been introduced, two hours daily throughout the Senior year, as one of several elective studies; it being the intention to allow students to choose between different lines of scientific work. In this way more time can be devoted to the branch of science in which the student is particularly interested.

For students who select chemistry the work of the first term of the Senior year will consist of laboratory practice in general quantitative analysis. During this term students will receive instruction in the use of the balance and in general quantitative manipulation. Each student will be required to make some of the fundamental quantitative determinations, such as chlorine, sulphuric acid, and lime, thus becoming familiar with quantitative processes by actual practice.

The nature of the work done during the last two terms of the Senior year will be left largely to the choice of the student, but in general will consist of research work along some line of chemical investigation. Thus an investigation may be undertaken concerning: waters, soils, ores, forage plants, methods of analysis or whatever subject the student may be particularly interested in, provided the same is approved by the professor in charge of the department.

Equipment.—Two rooms and a smaller store-room in the basement of the main buildiug are at present used for the chemical work. A seventy-five light gasoline gas machine furnishes an adequate gas supply for this department. The room formerly used for the chemical laboratory has been entirely refitted and now has, besides a sink and fume closet, a brick covered furnace table and two well constructed work desks. These desks are supplied with gas and water pipes, drawers and lockers for apparatus, and racks for reagent bottles. Students are supplied with a full set of apparatus for laboratory work. This includes, among other things: beakers, test tubes, gas burners, porcelain dishes, flasks, wash bottles, platinum foil and wire, ring stands, filter stands, funnels, test tube racks, spatulas, tongs, blowpipes, and a full set of reageant bottles.

Another room has been fitted up with special reference to the accommodation of the Experiment Station work. This laboratory contains, among other things: a work desk which is supplied with gas, water, and an air exhaust pipe for rapid filtration, a commodious hood to carry off noxious gasses, apparatus for the determination of Nitrogen by the Kjeldahl method, a titration shelf and system of burettes, a balance table supported by posts in contact with the ground, a Springer torsion balance, a Herzberg and Kuhlmann short beam automatic analytical balance, a Scheibler's polariscope and about 300 dollars worth of platinum ware.

While the Station laboratory is not designed for the use of students, the work being carried on there will serve to illustrate what actual practical analytical work is like.

IN THE STUDENTS' CHEMICAL LABORATORY.

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The chemical department also possesses: a Becker's analytical balance, a Troemner's solution balance, a first-class Bunsen's spectroscope, a plate and rubber, mill and set of sieves for sampling, a plant of Brown's assay furnaces, a set of Hoskin's gasoline furnaces, a good supply of crucibles, scorifiers, cupels, tongs, etc., for the assay of ores, and quite a large collection of standard books and periodicals for reference.

Fees.—Upon beginning the subject of chemistry, the second term of the Junior year, each student will be required to pay to the College Clerk a fee of five dollars ($5.00), to pay for the chemicals and gas consumed during all his subsequent chemical work. At the beginning of the work in chemistry in the Junior year and also at the beginning of the chemical work in the Senior year each student will be required to deposit five dollars, ($5.00), with the College Clerk to cover breakage of apparatus. At the close of the year or upon withdrawing from the class the balance from the deposit, after deducting the cost of broken apparatus, will be returned to the student.

Entomology, Zcology, and Physiology.

T. D. A. COCKERELL, PROFESSER.

Entomology is taught in the third term of the Senior year. Under this head are included two distinct branches, entomology proper, and economic entomology; these may be studied together, greater prominence being given to the one or the other, according to the needs of the individual student. In every case the student will be taught the general principles of the science, in both its branches; but after that each student is encouraged to take up a special line of work, usually an investigation of some particular group of insects inhabiting the vicinity. This involves the collection of specimens, and their careful study, both living and dead. It is held that entomology is not merely a science of dried insects stuck on pins, but a study of natural phenomena; and that the best collections serve but as an index to the book of nature. To study a book from the index alone would be absurd, but not more absurd than the attempt to obtain an adequate grasp of entomological problems solely from cabinet specimens. Hence, entomology is necessarily taught to some extent as a field study.

Books of all kinds, and the current entomological periodicals, are freely used, but no attempt is made to pin the students down to any particular text-book.

Zoology is divided into two branches: systematic zoölogy, a class study, in the second term of the Junior year; and practice in zoölogy and comparative anatomy in the first term of the Senior year. In addition to this, advanced zoölogy is allowed as an optional study throughout the Senior year.

The student is expected to pay special attention to the types of animal life found in the neighborhood, and classify them, so far as possible, with the aid of books. No text-book is used exclusively, for none that are entirely suitable can be found. Laboratory work occupies a portion of the time, but no attempt is made to follow the present-day custom of almost reducing the science to the study of minute anatomy of specimens preserved in alcohol or glycerine. On the contrary, it is desired to give the student the widest possible view of the subject; with especial regard to the inter-relations of living organisms; and the causes which are at work before us producing changes which, though slight within the period of observation, are believed to illustrate the process of evolution.

Physiology is taught in the first term of the Junior year, and Martin's Human Body (Briefer Course) is used as a text-book; supplemented by a good series of anatomical models, representing the various organs of the human body. An articulated human skeleton, and a good series of Cole's microscopic slides of the several tissues are also constantly in use.

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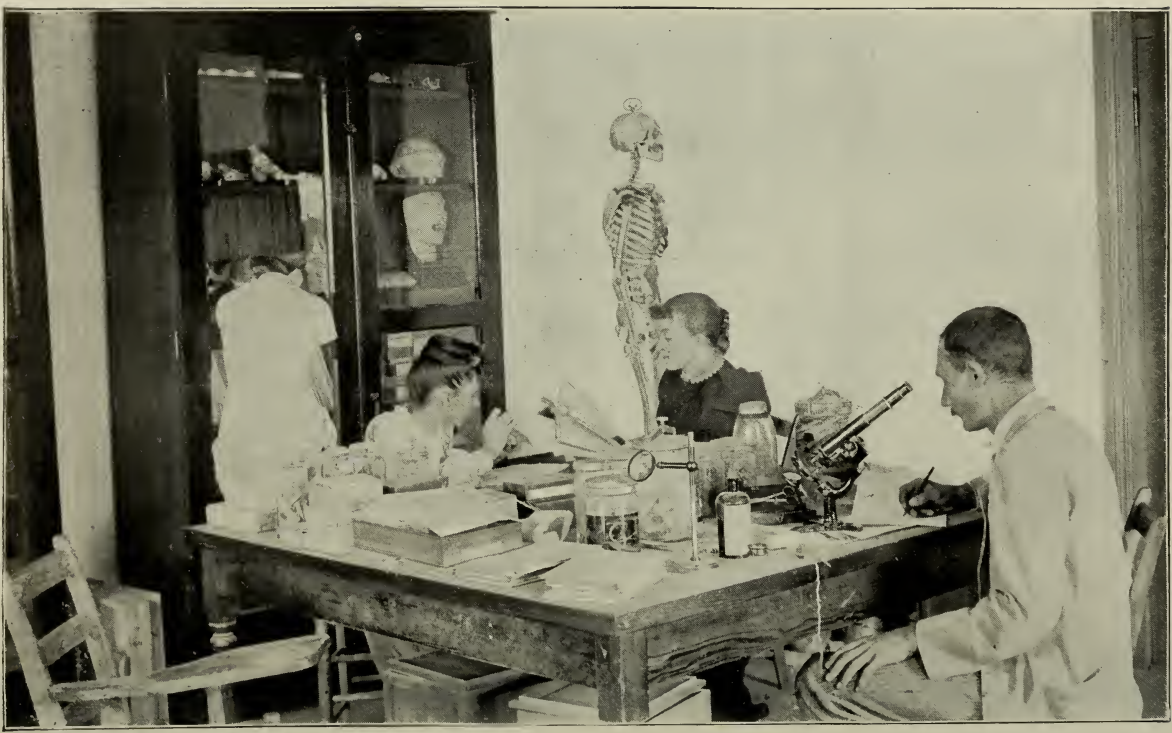


DEPARTMENT OF PHYSIOLOGY AND ZOOLOGY.

Physiology, as here understood, is necessarily a very wide subject; including also a good deal of human anatomy and histology, some pathology, and a certain amount of hygiene.

Equipment.—The department is supplied with as much apparatus as it actually needs at the present time. This includes good microscopes, and microscopical appliances, dissecting materials, glass jars and vials, breeding cages, insect-boxes, etc. The collection of insects has attained fair dimensions, but there remains a great deal of work to be done before it will be adequately classified. This state of affairs, however, is common to all collections in entomology, which always have a tendency to grow much more rapidly than they can be studied. In addition, we have types of reptiles, etc., in alcohol; but this collection cannot be allowed to increase much at the present time, for lack of space. The library of the department is fairly good, especially so in some branches; but it will necessarily receive constant additions to keep it up to date.

It may be added, that a college museum is contemplated, but nothing has been actually done toward realizing this scheme.

Mathematics and Astronomy.

C. T. HAGERTY, PROFESSOR.

Mathematics.—In the Freshman year the students of all courses receive the same instruction in mathematics. Nearly two terms are devoted to plane geometry; the remainder of the year, to solid geometry and a brief treatment of conic sections. Much time is given to "original exercises."

In the Sophomore year all students are required to take advanced algebra in the first term, and trigonometry in the second term. The students of the Engineering courses take higher algebra in the third term. The work in advanced algebra consists of a review of the more difficult subjects of elementary algebra, and a treatment of the following subjects: undetermined coefficients, binomial theorem (any exponent), logarithms, scales of notation, theory of numbers, and variables and limits.

At the beginning of the study of plane trigonometry, students, in order to get a clear conception of the measurement of angles, will have practice with protractors, trigonometer, and a surveyor's transit. The line values of trigonometric functions are not considered until students can solve right and oblique triangles by the method of ratios. The tables of logarithmic functions are not used until students are familiar with the tables of natural functions. Goniometry, or the theoretical part of trigonometry, is not studied until the practical side has received considerable attention. The last three or four weeks of the term will be devoted to spherical trigonometry.

The subjects of higher algebra treated in the third term are as follows: choice, chance, continued fractions, convergency of series, series of differences, reversion of a series, recurring series, exponential series, logarithmic series, general properties of equations, Cardan's Rule for cubic equations, Sturm's Theorem, Horner's Method, and complex numbers.

In the Junior year students in the Engineering courses are required to take analytic geometry and calculus. This work is optional in the Scientific course. Analytic geometry is studied in the first term and five weeks of the second term. A number of the higher plane curves and geometry of three dimensions receive considerable attention. The remainder of the year is devoted to the differential and integral calculus. Taylor's Elements of Calculus is the text-book used.

The instruction in all the branches of mathematics will be made as practical as possible.

Astronomy.—In the third term of the Junior year, all regular students, except those in the Mechanical Engineering course, are required to take astronomy. The aim will be to furnish a general knowledge of the historical development and of the present state of the science.

In the first term of the Senior year, students in the Scientific course may continue the study of astronomy if they desire to do so.

Students will determine with a surveyor's transit the meridian and latitude, by observations of polaris and of the sun. With the same instrument the altitude and azimuth of a star or planet may be found when desired. This department has a 24-inch slated globe, planisphere, and a portable telescope with 5-inch objective and maynifying powers ranging from 100 to 400.

Engineering.

HORACE ROPES, PROFESSOR.

This department offers to the student the choice of two regular courses, each four years in length:—

I. Mechanical Engineering.
II. Civil Engineering.

Graduates, and others of sufficient attainments, can arrange for advanced or special work, in either of these courses, by obtaining special permission from the Faculty.

Instruction is given by lectures, recitations, and practice, so combined as to constitute a symmetrical course of study. The method is such as to provide a full equipment of general and technical knowledge needed by practitioners in these professions; and to add to that as much of engineering practice as can be taught in schools, so that our graduates may be competent to enter at once the shop or the office, and earn fair compensation as useful contractors and investigators.

Every young man should acquire familiarity with the practical side of his profession; therefore, special prominence is given to the element of practice. Practice work in both departments, will be under the direction of practical men; and the work in shop and field will be made to conform closely to actual business methods.

While much of the time allotted for recitations and lectures will of necessity be devoted to higher mathematics and technical subjects, yet the student's college course will also include certain other fundamental studies necessary for a broad and liberal education, such as history, civics, political economy, languages, literature, chemistry, elocution, etc.

I.—MECHANICAL ENGINEERING.

This course, in addition to the advanced mathematical and general studies common to both courses, includes instruction in Theoretical and Applied Mechanics, Thermodynamics, Steam Engineering, Engineering Laboratory work and Shop practice.

In Theoretical Mechanics, the principles of statics and dynamics are taught and illustrated in the solution of a wide range of problems, including in statics, the combination of the simple mechanical powers, the determination of the center of gravity of surfaces and solids, the effect of friction, the pressure of liquids, and center of pressure of immersed surfaces; and in dynamics, relations of time, space, and velocity in uniformly accelerated motion, the altitude, range, and time of flight of projectiles, the impact or collision of bodies, the moment of inertia of surfaces and solids, etc.

In Applied Mechanics, problems are solved relating to the strength and deflection of beams, pillars and girders; the bursting strength of boilers, pipes, and thick hollow cylinders, the torsional strength of axles and shafts, the construction of gears, the designing of valve motions, the energy and work of moving bodies, the work of steam in the steam cylinder, the tractive power of the locomotive, the transformation of energy, and many other problems relating to the construction of hydraulic and steam motors and machinery.

Instruction in Thermodynamics includes a study of the principles of the science, the development of the fundamental equations, and their applications to heat and engines.

In Steam Engineering, the student is made familiar with the styles and details of steam engines and steam boilers in general use; the measurement and computation of power by means of the indicator and planimeter; the analytical and graphical methods of determining the effect of the reciprocating parts of the engine upon the distribution of energy to the crank shaft; the principles regulating the design of crank shaft, fly wheel, governor, valve, and other parts of the steam engine; the theory of the compound and multiple expansion engines; the effect of clearance and cylinder condensation; and other problems relating to the production and use of steam and the measurement and transmission of power.

Engineering Laboratory work includes the study of the methods and means of testing materials to determine their strength and elasticity; experiments involving the properties of lubricants; the character and economy of fuels; and standard test trials of boilers, steam and gas engines; power measurements and efficiency of machines.

The study of Machine Design succeeds that of pure mechanism and is largely conducted in the drawing rooms, where the time will be devoted to a thorough consideration of the elements of machinery, such as fastenings, bearings, pulleys, bolts, gears, and connecting rods. During the Senior year, the work on this subject will comprise the design of a one hundred horse-power, high speed steam engine and problems in valve diagrams.

Shop Practice.—Work rooms, well equipped with wood and metal working tools and machinery, are temporarily located in the basement of the college.

There the students in Mechanical Engineering spend their practice hours as apprentices, and it is believed that graduates in this department will be as skillful mechanics, as ordinary apprentices who have served three years in a shop; and they have, in addition, the advantages of a solid education.

This result is attained by providing a great variety of work, and at the same time maintaining a high standard of workmanship, so the progress of the student may be both rapid and thorough in a knowledge of shop practice, and in the best methods of construction.

The work of each student is done under the personal supervision of a skilled workman, and with the advantage of the best obtainable tools and machinery.

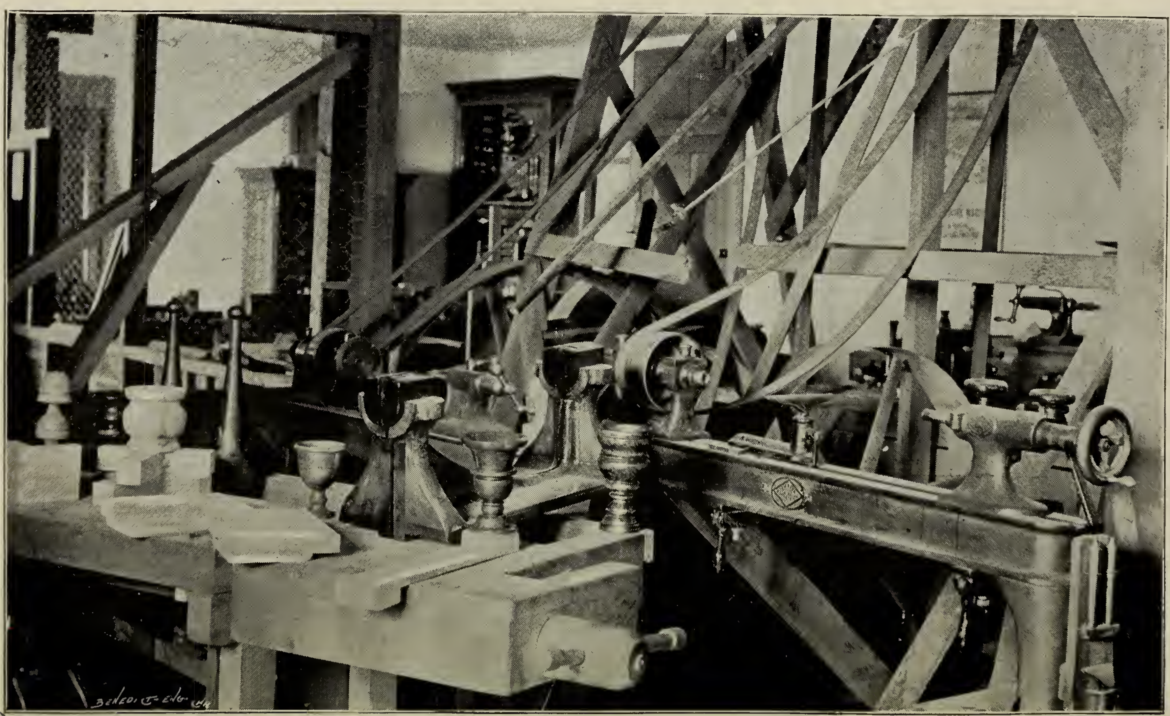
Beside the general training in free hand and instrumental drawing, students will have practice in making working drawings of machines, and determining the strength, dimensions, and proper proportions of parts from numerical specifications.

Theory and practice supplement each other and each student is advanced as fast as possible, unchecked by the difficulties of his neighbor or any business necessity of the shop.

The work shop is equipped with six cabinet maker's benches, twelve sets of carpenter's tools. There are also five iron wood-turning lathes all of different design, thus exhibiting the various types of the best modern machines of this class; also one universal sawing machine, and one forty by six-inch grindstone.

The above are driven by an eight horse power vertical engine, supplied with steam from a twelve horse power water tube boiler, using petroleum fuel. Each student is required to run this engine and boiler as part of his shop practice, and he then receives instructions in the care of engines and boilers, the control of steam pressure and water supply and the manipulation of the steam pump and injectors.

In the draughting room, accommodations are furnished for six students at a time, and a good start has been made in the collection of drawings of different classes of machinery. A superior blue-printing frame together with the necessary draw-



IN THE WOOD SHOP.

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ing boards, etc., complete the list of apparatus, so far provided for this work.

It is proposed to equip the forge shop and foundry for next year, and later to erect a building for a machine shop and mechanical laboratory.

Wood turning, carpentry and joinery being preparatory to pattern-making, involve progressive exercises, illustrating the care and use of edge tools. The final work in these two subjects will be the production of a useful or ornamental article, requiring joinery and wood turning in its construction, and illustrative of the student's proficiency in these trades.

Blacksmithing.—In the blacksmith shop the student is taught the care and management of his fire; forging and welding of iron; forging, annealing, hardening, and tempering of steel. The production, by the student, of a set of lathe and vise tools, to be used later in the machine shop, constitutes the final work in this trade.

Foundry.—In the foundry instruction is given in moulding materials; moulding in green sand, dry sand, and loam; core-making, mixing and melting of metals, and cupola management. In addition to making several castings for future use in the machine shops, the student is required to make a difficult or ornamental casting in bronze as the final work.

Pattern Making.—The student, having taken wood-turning, carpentry and joinery, and foundry work, is now fairly well prepared to commence pattern-making; and, from his foundry experience, he knows what it is to have a well or poorly constructed pattern. This work will consist of a carefully selected set of exercises, designed to bring out the principles underlying the pattern-makers' trade; but the students stand ready at all times to assist the Seniors in the construction of patterns for their "graduating piece." In the assignment of Juniors to this work, selection will be made from the most skilled and careful members of the class.

To test the student's knowledge of pattern-making and foundry work, he will be examined on several blue-prints of machine castings.

Machine Shop.—Machine tool work includes instruction at the vise, where the student finishes a pair of riveted calipers and a hammer, both of which, together with his center punch, and chisels, now used for the first time, were made in the forge shop. After a few additional exercises at the vise, the student begins work on the machine tools, which consists of exercises so designed as to exhibit the chief uses of the lathe, planer, drill-press, milling-machine, shaper, and hand lathe. This work occupies the student's time in shop until the second term of the Senior year. By this time, if a diligent student, he has sufficiently mastered these tools to begin his "graduating piece," the final work in the shop. Seniors desiring assistance from the Junior pattern-makers may, on receiving permission from the head of the department, obtain the experience of superintending shop-work, if it is thought to be of advantage to both classmen. Provided the "graduation piece" is finished and accepted before the end of the year, the remaining time may, by special permission, be devoted to advanced work of an engineering nature.

II.—CIVIL ENGINEERING.

The course in Civil Engineering, in addition to the general studies common to the other college courses, includes instructions in theoretical and applied mechanics, theory of errors, and method of least squares, elements of geodesy, theoretical hydraulics, hydraulic motors, hydraulic engineering, graphic statics, stresses in roofs, bridges and arches, roof and bridge design, foundations, construction of roads and railways, street paving, masonry construction, engineering laboratory work, and field practice.

The instruction in mechanics is the same as that given mechanical engineers, except that theory of structures is taken in place of kinematics and theory of mechanism.

The instruction in geodesy includes the theory of errors and method of least squares. It is designed to give students a working knowledge of the principles involved, and practice in the solution of problems.

The instruction in hydraulics includes the application of theoretical principles to the ordinary problems of engineering practice; and the design of dams, reservoirs, pipe lines, canals, etc.

In roofs, bridges and arches, the students will be given a thorough drill in the methods of determining stresses by analytical and graphical methods; and the details of construction. They will also make designs for a roof truss, and a railway bridge.

In stereotomy, the class is required to make drawings of structures with plane, curved and warped surfaces, from data given by the instructor and then make detail drawings of the stones that must be cut to exact dimensions, and require templates.

The Engineering Laboratory work of Course II is the same as that of Course I except that weir measurements and cement tests are taken in place of boiler and engine tests.

The instruction will be such as to render the student familiar with the principal instruments and methods used in land, topographical, city and railroad surveying. He will have practice in the use of the compass, engineer's transit with stadia and solar attachments, engineer's level, plane table, prismatic compass, aneroid barometer, clinometer, optical square, planimeter, and pantograph. Surveys are made, notes plotted, and areas computed. Some time is devoted to the study of the laws and court decisions relating to boundaries, re-location of lost corners, etc. Students will have practice in determining the true meridian and latitude, by observations of the north star and of the sun. Topographical maps must be made from the field notes.

Instruction in railroad surveying will include problems in simple, reversed and compound curves; turnouts, earthworks, and economics of location. Students will be required to make reconnoissance, preliminary and location surveys for a line of railroad; set grade and slope stakes, and calculate the cubical content of excavations. Railroad maps and profiles must be made from the field notes.

Students of the Engineering courses will have access to an excellent department library.

History and Political Science.

JOHN P. OWEN, PROFESSOR.

History.—U. S. History is completed in the Preparatory Department, as is also a short course in the elements of civil government. Ancient history is studied by all students in the first term of the Freshman year; mediæval and modern history, by all in the second term of the same year. English history will be studied by the students of the Scientific and Agricultural courses in the third term of the Freshman year.

In the study of history the aim is not so much to memorize facts, as to understand them. As far as practicable the "seminary" plan will be used, the object being to train the student to think for himself and to lead him to consult *historical sources.*

In general history Sheldon's History is used as the textbook; in English history, Montgomery's, supplemented by Green's History of the English People. Although text-books are used, the instruction is largely supplemented by readings and lectures.

One of the objects of this course is to inculcate in the student a love for the study of history, and to teach him to form his own conclusions from the facts presented.

The library to which the students have access contains a very fair amount of first-class historical literature, which covers well the general field of history. Students in all history courses will be required to prepare three papers each term on subjects assigned.

Political Science.—The subject of civil government, supplemented by lectures on constitutional law, is taken by all students in the first term of the Junior year. The text-books used are: Fiske's Civil Government, Woodrow Wilson's The State, and Cooley's Principles of Constitutional Law.

Constitutional and political history lectures are given to students of the Agricultural and Scientific courses in the third term of the Junior year. Johnston's American Politics and Burgess' Political Science are used.

Political Economy.—This subject is pursued during the second term of the Senior year. Instruction will be given by means of recitations and lectures.

The current practical problems of industrial society are also discussed on the basis of economic principles. Each student will be required to prepare an original paper upon some topic which will be assigned him.

The present industrial and financial embarrassment shows the importance of a knowledge of economic principles. The relations of capital to labor, the tariff, *bi-metalism*, banking, and other important questions relating to the welfare of our nation, are carefully studied and discussed.

Mill's Political Economy is used as a basis, but the students are required to read extracts from a number of standard authors, among whom are Adam Smith, Fawcett, Walker, Thompson, Bowen, Wayland, and Perry.

History of Civilization.—The Seniors of the Scientific course are required to take this subject in the last term. Guizot's Lectures will be used as a guide. A considerable range of

Literature will be referred to, and essays on various topics required.

Languages.

John P. Owen, in charge of English.
Albert E. Davisson, in charge of Latin.
Ida M. Jones, instructor in Spanish.

English.—In this department the students pursue a systematic course in the English Language and Literature.

Students of all courses take rhetoric in the first term of the Freshman year. Grammar and rhetoric each having been studied for an entire year in the Preparatory Department, the work of this term will be *advanced* rhetoric.—Text-book A. S. Hill's Rhetoric.

The work in rhetoric as an art is practiced throughout the entire four years of the college course, all students being required to meet one hour each alternate week, to practice essay writing; and while the study of text-books and rhetorical method ends with the first term of the Freshman year, the essay work is carried on with English and American literature, political science, and history to the end of the Senior year.

English Literature is required in all courses, in the first and second terms of the Sophomore year. American Literature is studied by the Agricultural and Scientific students in the first term of the Junior year. In this study the chief aim is to acquaint the student with the best literature and to cultivate in him a taste for it. One term, of the three devoted to this subject, will be given to the study of the history of literature, biographies, and books; the other two terms will be given to the study of the masterpieces of the language.

Swinton's Studies in Literature, Hale's Longer English Poems, Brooke's Primer, Hawthorne and Lemon's American Literature are the text-books used.

All students in literature will be required to read standard works and will be examined on such reading.

In the Scientific course, literary reading occurs as a practice during two years and English classics one year. Opportunity is here given for a wide range of literary study and reading.

As far as possible this reading will be arranged so as to assist the student in other studies and researches. It will be made intensive rather than extensive. Critical and systematic reading will be encouraged rather than superficial and indiscriminate.

The library contains a great number of the best books, and additions are constantly being made thereto; so that no difficulty, as to books, will be experienced in carrying on this work.

All Seniors and Juniors must appear in public once each term with an original essay or oration.

Latin.—In all courses the study of Latin is optional with Spanish in the second and third terms of the Freshman year, and throughout the Sophomore year.

In the first two terms of the course, the student is expected to acquire a thorough knowledge of declension, comparison, and conjugation, and to master the elements of Latin syntax. This work is accompanied by exercises in translating Latin into English, and English into Latin. Harkness' First Year in Latin is the text-book used.

The work of the third and fourth terms is a study of the first four books of Cæsar's Gallic War. This work consists of translation, of studies in Latin syntax based upon the portions read, together with constant practice in inflection of words from the text.

In the last term, Cicero's first two orations against Catiline and a portion of the first book of the Æneid of Vergil are read. The work in syntax and inflection continues through this term.

Spanish.—As may be seen from the Courses of Study, Spanish is optional with Latin in all the courses in the second and third terms of the Freshman year, and throughout the Sophomore year.

In view of the fact that 30,000,000 people in the Western hemisphere speak Spanish, and that it is the language of commerce of about all the people south of the Rio Grande, it has been thought best to give those who wish, an opportunity to acquire this language.

Situated as this College is near the border of the Republic of Mexico, with this tongue in common use among the majority of our people, the opportunity here afforded to acquire a working knowledge of this language, next to English the most useful for Americans, is certainly excellent, and should be improved by all who expect to enter upon any field of labor among Spanish-speaking people. In the time allotted to this study, a fair knowledge of the language may be obtained.

The elements of the language are acquired by the study of Edgen's Spanish Grammar, with Worman's First and Second Book. Conversation and sight reading will be given twice a week with additional work in dictation.

The work in the Sophomore year will consist of translations of Moratin's comedy El si de las Niñas and selections from Don Quijoté, and Lope's La Estrella de Sevilla; oral and written translations of English selections of various styles, the writing of business letters, and the study of Spanish versification and literature. Students will be required to do private reading in the course from Cervantes, Calderon, Moratin, Selgas, and others.

The following books of reference are accessible to students: Knapp's Grammar, Becker's Spanish Idioms, and Ticknor's History of Spanish Literature.

Music and Elocution.

MADAM LOLA DOREGO, INSTRUCTOR.

INSTRUMENTAL MUSIC.

1st Grade.—Touch-Technic and Finger Exercises, Schmidt; Loeschorin's Book of Studies, No. 1; Diabelli's Book of Studies, No. 1 (four hands).

2d Grade.—Urbach's Instructor; Wels' Indispensable Scales and Chords; Schmidt's Finger Exercises, Nos. 2 and 3; Czerny's Etude de Velocite, Books Nos. 2 and 3.

3d Grade.—Urbach's Instructor continued; Wels' Scales and Chords continued; Cramer's Complete Advanced Studies; Heller's Melodious Studies, Books Nos. 1, 2, and 3; Gradus ad Parnassum, by Muzio Clementi.

VOCAL MUSIC.

1st Grade.—Breathing exercises and voice culture; Mason's Tonic Effects (for class study); Bassini's Art of Singing, Part 1st, for soprano, mezzo soprano, and tenor voices; Abt's Singing Tutor, for contralto, baritone, and bass voices.

2d Grade.—Bassini's Art of Singing, Part 1st, continued; Concone's Vocalizations, Book No. 1; Abt's Singing Tutor, continued.

3d Grade.—Bassini's Art of Singing, Part 2d; Concone's Fifty Vocalizations, Book No. 2; Abt's Singing Tutor, completed.

Song and piano recitals are given every two months for the benefit of scholarships in music.

The fee for music is ten dollars a term, one-half of which is payable in advance; the other half, at the middle of the term.

Elocution.—This study is required throughout the four years, one exercise every alternate week. Southwick's Primer of Elocution and Action, and Frobisher's Elocution, are used as textbooks. The aim will be to present a course of elocutionary training, with special reference to voice culture and delivery.

Preparatory Department.

Albert E. Davisson, Principal.
Ida M. Jones, Assistant.
Prof. John P. Owen, History and Civil Government.
Prof. Clarence T. Hagerty, Algebra.
Prof. T. D. A. Cockerell, Physiology.
Madam Lola Dorego, Reading.
J. A. Christman, Penmanship.

The purposes of this department are to prepare students for admission to the Freshman class of the college, to furnish a fair general education to those whom circumstances will not allow to take a college course.

The instruction is mainly given by the Principal and his two assistants, but, as will be seen, some subjects are in charge of the college professors.

To enter the first year class, applicants must be able to pass an examination in the following subjects: reading, spelling, the elements of English grammar, and arithmetic through the fundamental rules, greatest common divisor, least common multiple, common and decimal fractions, and United States money. To secure admission to the second year class, applicants will be required to pass a creditable examination in reading, spelling, complete geography, grammar through the parts of speech, and in arithmetic through percentage. To be admitted to the third year class, students must have a *thorough* knowledge of *all* the common branches.

The course of study covers three years; the first two years are devoted to the common branches and to drawing; in the third year the following subjects are studied: United States history, civil government, physical geography, algebra, bookkeeping, composition and rhetoric, word analysis, and American authors. Special attention is called to the last subject mentioned. The work in this continues through the second and third years, and is of great value. The student learns and is required to interpret the principal figures of speech, is led to comprehend the thought and feeling of the selection studied, and is expected to prepare papers showing that he has a knowledge of the matter, method, and style of the various authors. The work includes Hawthorne's Wonder Book, Longfellow's Evangeline and Courtship of Miles Standish, Whittier's Snow-Bound, Lowell's Vision of Sir Launfal, and portions of Irving's writings.

Students are also required to pursue a course of reading under the direction of the Principal.

Those who expect to take the course in Stenography and Typewriting, or the course in Telegraphy will be allowed, in the first term of the third year, to substitute ancient history for algebra; in the second and third terms, Spanish for algebra.

Students in this department enjoy the same library and lecture privileges as the college students, and are governed by the same rules.

On the following page is a tabulated statement of the course of study for the three years.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Arithmetic.	Arithmetic.	Arithmetic.
Grammar.	Grammar.	Grammar.
Geography.	Geography.	Geography.
Reading.	Reading.	Reading.
Spelling.	Spelling.	Spelling.
Drawing, Book V.	Drawing, Book VIII.	Drawing, Book IX.
Penmanship.	Penmanship.	Penmanship.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Arithmetic.	Arithmetic.	Arithmetic.
U. S. History.	U. S. History.	U. S. History.
Grammar.	Grammar.	Grammar.
American Authors.	American Authors.	American Authors.
Drawing, Book X.	Drawing, Book XI.	Drawing, Book XII.
Penmanship.	Penmanship.	Physiology.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Algebra.	Algebra.	Algebra.
Composition and Rhetoric.	Composition and Rhetoric.	Composition and Rhetoric.
American Authors.	American Authors.	American Authors.
Word Analysis.	Word Analysis.	Bookkeeping.
U. S. History.	Civil Government, ½ term. Phys. Geography, ½ term.	Physical Geography.

Business Department.

In view of the facts that there are no schools in southern New Mexico that furnish thorough and complete commercial courses, that the demand for such instruction is great and increasing, and that such training is of the most useful and practical character, it has been determined by the Board of Regents to establish a Business Department in this college. In order that this department may not interfere with the regular college work, it is thought best to make it separate and distinct, to require a certain standard of admission, and to have definite courses of study. This department will include three courses, each complete in itself; namely, Course in Bookkeeping, Course in Stenography and Typewriting, and Course in Telegraphy.

Upon the completion of any of the courses a Certificate will be given.

Requirements for Admission.

To begin the course in Bookkeeping, the student must be fifteen years of age, and must have completed arithmetic, grammar, geography, and U. S. history, and should be able to read and spell well. Students who have completed this work in the Preparatory Department of this college, will be admitted without examination, also those students who can produce a certificate from the Principal of any reputable high school or graded school in the Territory that the above named branches have been completed satisfactorily. All other students will be examined.

To begin the course in Stenography or Telegraphy the student must be sixteen years of age and must have completed all the work of the Preparatory Department of this college or its equivalent. Students who have completed the work of the Preparatory Department and graduates of any reputable high school in the Territory, will be admitted to these courses without examination. All other students will be examined.

FEES.

The following are the fees in the Business Department:

Entrance fee	$3.00
Deposit for care of books, etc.	2.50

PURPOSE.

It is not the design of the Business Department to attempt to fit students for bookkeepers, stenographers, and telegraph operators in the shortest possible time; or to use all of the time of the student for purely technical instruction and practice. The demand at the present time is for well educated, thoroughly qualified bookkeepers, stenographers, and telegraph operators. It should be distinctly understood that this institution offers no inducements to those who are determined to enter upon any of these lines of work, without stopping to lay the foundation of a good general education. Experience will show that persons of limited education, if able to secure situations at all, invariably fall into the lowest class of workers, and are worth little to those who employ them; while the services of those who are carefully trained and well educated, are sought and liberally paid for.

Students will not be permitted to devote themselves exclusively to bookkeeping, stenography, or telegraphy, who can not show to the satisfaction of the faculty that they have completed, in a satisfactory manner, in some school of known thoroughness, the additional studies named in that Business Course they are pursuing. Nor will students be permitted to pursue more than one business course at a time, except by vote of the faculty; and such permission will only be granted to students whose age, maturity, and scholarship leave no doubt of their ability to do the work.

It is believed that these courses offer much for those who wish this kind of training.

Each Instructor has had careful training and practical experience in his line of work.

All students of the Business Department enjoy the same library privileges as the college students.

Bookkeeping.

J. A. CHRISTMAN, INSTRUCTOR.

The aim of the course in bookkeeping is to so train the student in both theory and practice that he may be fully equipped to enter the wide field of modern commercial life. It is eminently a practical course and is calculated to impart as thorough and complete a knowledge of the more necessary commercial branches as can be accomplished in a 39 weeks' course. The student commences by being carefully instructed in the elementary principles of bookkeeping, the nature of accounts, and their various forms, etc. As he advances, he learns how to keep the several books used—the journal, cash book, sales book, ledger, etc., and is fully instructed in making out balance sheets and statements, in partnership accounts, consignments, stock companies, banking, and the more advanced work. Both single and double entry bookkeeping are taught, and the principles of both are so plainly set forth that the student may be able to keep any set of books by principles clearly understood, rather than by rules that have been committed to memory.

In addition to the theoretical and practical work in bookkeeping, which constitutes one third of the entire year's work, commercial law, commercial arithmetic, penmanship, and composition are made strong features of the course. In each of these branches the idea is kept constantly in view of giving especial attention to those features which will be of the greatest practical use to the student. Thus, in commercial arithmetic, accuracy and rapidity of work are required; while exercises are given in the various kinds of commercial calculations. In commercial law the student learns the legal requirements of commerce, and studies such subjects as the nature of contracts, negotiable paper, partnership, insurance, and many other questions of vital importance to the business man. Considerable attention is given to penmanship. The student is trained to adopt a plain, legible style of writing, combined with a free and easy movement. A good, clear business hand is, perhaps, one of the best passports to success for a young man entering the business world.

The text-books used in this department are Williams & Rogers' publications.

Stenography and Typewriting.

F. E. LESTER, INSTRUCTOR.

The principal object of the course in Stenography and Typewriting is to thoroughly qualify the student to become a practical shorthand and typewriting amanuensis, so that at the completion of the course he may be prepared to accept a position as such. Three hours a day, out of the five hours daily work required of students in this course, are devoted to stenography and typewriting—about two to the former branch and one hour to the latter. The remaining studies pursued in this course are such as to strengthen the student in those subjects which are more or less necessary to the competent stenographer. An excellent feature in this connection is the provision made for the study of Spanish. The commercial relations betwen North and South America are such that the demand is constantly increasing for competent stenographers who are able to correspond in this language; while those who can take dictation in Spanish, can readily command a high salary.

A good English education is an absolute necessity to the student in shorthand; without it he can never succeed. It is the foundation upon which all his stenographic acquirements rest. For this reason it is required of all students taking the course that they shall have completed the work in the Preparatory School, or its equivalent. Equally important is it that the work of the course shall be done in a thorough manner; and thoroughness is made a strong feature throughout. Superficial work in shorthand is nothing less than a waste of time, and it will not be allowed. The average student will require the entire year, giving close application to his work, in which to become proficient as an amanuensis.

Shorthand.—Much care has been taken in the selection of what is thought to be the best system of shorthand available, for the success of the shorthand student in his work depends largely upon his faith in the system he studies. The superiority of the Graham system, which is the one taught, has been proved conclusively by recent investigations which have revealed the fact that more than 50 per cent. of the official court reporters in the United States are Graham writers. The textbook used is Graham's Handbook, supplemented with other publications as the student advances.

The work of the year's course is divided into three parts. The first term is devoted to the elementary grade, a study of the principles of shorthand; the second term, to the intermediate grade, covering word-signs and drill in correct outlines; and the third term, to the advanced grade, in which the student takes up dictation in business correspondence, literary and general matter. Particular attention is given to correct business forms, commercial expressions, and legal matter, and to careful training in the best outlines, by which alone a high rate of speed can be attained.

Typewriting.—The requirements of modern business demand only the expert typewriter operator, and the work of this course is such as to qualify the student to become such. The four-finger method is taught, and a complete text-book studied in connection therewith. The practical work includes drill in fingering, touch, copying, letter-writing, legal and commercial forms, spelling and punctuation, writing from dictation, mechanism and care of the machine, speed exercises, transcription from shorthand notes, letter-press copying, and manifolding and mimeographing.

The department is equipped with the best machines. The Standard Remington is the principal one used, for the reason that it is more generally used in business offices than any other make, over 120,000 being in actual service, and because the Remington key board is adopted by many other machines, thus giving the Remington operator the advantage of being able to manipulate other makes of machines than his own, should occasion demand.

Telegraphy.

J. P. STEWART, INSTRUCTOR.

A thorough training in bookkeeping is required in this course, which includes railroad bookkeeping, in order that the operator may have the training to fit him to take charge of a station as railroad and express agent, when these three duties are united, as is frequently the case.

Those whom the faculty and instructor decide are able to do the work, may also take commercial arithmetic and commercial law, or Spanish, during the entire year, thus greatly broadening their field of usefulness.

The purpose of this course is to fit those who complete it to take charge of a station on any railroad, or to enter the employ of the Western Union Telegraph Company as operator.

COURSES OF STUDY IN BUSINESS DEPARTMENT.

	BOOKKEEPING.		STENOGRAPHY & TYPEWRITING.		TELEGRAPHY.	
First Term.	Commercial Arithmetic	5	Stenography	5	Telegraphy	5
	Bookkeeping	5	Spanish or Rhetoric	5	Bookkeeping	5
	Comp. and Rhetoric	5	English Literature	5	Commercial Arithmetic or Spanish	5*
	Penmanship	1	Penmanship	1	Penmanship	1
	Spelling	4				
Second Term.	Commercial Law	5	Stenography	5	Telegraphy	5
	Bookkeeping	5	English Literature	5	Bookkeeping	5
	Comp. and Rhetoric	5	Penmanship	1	Penmanship	1
	Penmanship	1	Spanish or Mediæval and Modern History	5	Commercial Law or Spanish	5*
	Spanish	5*				
Third Term.	Commercial Law	5	Stenography	5	Telegraphy	5
	Bookkeeping	5	English History.	5	Bookkeeping	5
	Comp. and Rhetoric	5	Penmanship	1	Penmanship	1
	Penmanship	1	Spanish or American Political History	5	Commercial Law or Spanish	5*
	Spanish	5*				
	PRACTICE.—Penmanship, Spelling, and Bookkeeping each term	5	PRACTICE.—Penmanship, Spelling, Typewriting and Stenog. each term	5	PRACTICE. — Penmanship, Spelling, Bookkeeping and Teleg. each term	10

* Optional.

College Societies.

Cordeagian.—This young ladies' literary society was organized September 18th, 1891. Its motto is "*Vestigia nulla retrorsum.*" It meets every Friday afternoon, and the exercises consist of debates, essays, declamations, music, and impromptu speeches. The officers are:

Mae Gilmore	President.
Dee Peake	Vice President.
Ora Gilmore	Recording Sec'y.
Jessie Casad	Cor. Sec'y.
Edith M. Dawson	Treasurer.
Edith M. Dawson Jessie Casad	Critics.

Columbian.—The young men's literary society of the college was organized October 25th, 1891, under the name of Alpha Chi. In 1892 this was changed to Columbian, and under this name the society has made steady and prosperous growth. The object of the society is to promote and encourage conscientious and practical literary work by discussions, papers, debates, and such other exercises as the committee on programme may prescribe. The requirements for admission to the society are that members must be students of good standing in the College. They must also pay an entrance fee of one dollar, and dues of fifty cents each succeeding term. Regular meetings are held on Friday afternoon of each week.

The *New Mexico Collegian* is published and managed by the Columbian Literary Society, under the supervision of the faculty. It was founded in February, 1893, and has been published regularly since that time. It is an eight to twelve page journal and contains frequent contributions from students, besides the usual matter found in college publications. It is issued about the fifteenth of each month during the collegiate year, and has a good circulation throughout the Territory, and one which is constantly increasing.

The interest of students in the journal has grown considerably since it was founded, and it appears to be especially valued by those who leave college, serving as it does to keep them in close touch with the institution and with their college friends. The *Collegian* is now self supporting, and has every prospect of being a successful journal. It will be enlarged and improved in the future as the support given it may warrant. All work in connection with its publication is entirely gratuitous. The subscription price is one dollar a year.

Officers:

A. M. Holt	President.
A. H. Peterson	Vice President.
E. B. Holt	Recording Sec'y.
O. C. Snow	Cor. Secretary.
E. J. Coe	Treasurer.
F. F. Barker	Librarian.
F. E. Lester	Chaplain.
R. R. Larkin	Critic.
F. Garcia	Marshal.

Athletic Association.

This association was organized in October, 1893, for the purpose of encouraging athletics in the college. Last January it sent a football team to Albuquerque, N. M., where was played with the University team the first inter-collegiate game in the Territory. It held several tennis tournaments, and developed some good players; and managed successfully the annual Field Day exercises. It has also begun the nucleus of a gymnasium.

The following were the officers for 1893-4:

R. R. Larkin, President; Miss Jessie E. Casad, Secretary; L. C. McGrath, Treasurer; R. R. Larkin, L. C. McGrath, F. F.

Barker, A. M. Holt, O. C. Snow, Miss Jessie E. Casad, Miss Edith M. Dawson, Prof. A. J. Wiechardt, Executive Board.

Field Club.

This club was organized in the Spring term of 1894, for the purpose of studying the natural history of the Mesilla Valley. Its membership is limited to students and professors of the college, and more than twenty members have already been enrolled. The annual fee is ten cents. Several meetings were held in the vicinity of the college, and at the last meeting two species of scale insects, new to science, were discovered. The officers are as follows:

Miss K. A. Williams, President; A. H. Peterson, Vice President; R. R. Larkin, Secretary; Miss Jessie Casad, Treasurer.

General Information.

The postoffice of the college is Las Cruces, N. M. It is a money order office. Las Cruces is also the general freight and express office of the college.

Strangers will find it more convenient to stop at Las Cruces, and go temporarily to some hotel. They should then report to the president, who will assist them in finding a boarding place.

Students should be on hand the first day of the term. The necessity of this is too seldom realized. New students and those desiring re-examination should report on the day named for this work.

Students coming to the college over either the Atlantic and Pacific railroad, or the Atchison, Topeka & Santa Fé railroad, and paying full fare, are returned for *one-third fare.* When buying tickets, they must secure a receipt from the agent for the money paid. This receipt must be preserved or the reduced rate can not be obtained. This reduction in fare will be given only when the student returns at the end of the term.

TEXT-BOOKS.

Text-books are furnished by the college. They will either be sold to the student at cost, or they will be loaned. Students are required to deposit $2.50, in advance, to secure the proper care of college property, and the prompt return of books borrowed. At the close of the year, or when the student withdraws, this deposit is returned, unless damage has been done to the books or other college property. When this is the case the damage is assessed against the student, and any balance remaining of his deposit returned.

This deposit may be increased with students who are notoriously careless. Students who are able should purchase their books. Many of them will be needed after leaving school; and they can be made to form the nucleus of a library, which every student should be encouraged to collect. Students who purchase their books will be more apt to properly care for them, and to grow into book-lovers than those who borrow them for a term or more.

STATIONERY.

As the college is distant about two miles from any store dealing in stationery, it has been found necessary for the accommodation of students, to carry at the college a small line of articles, such as paper, pencils, pens, etc., which are sold to students, for cash only, at a small profit.

FEES.

Entrance fee, each year, for all students	$ 3 00
Deposit fee, " " " " "	2 50
Advanced students in Botany, per term	1 00
Students in Chemistry, fee	5 00
Students in Chemistry, deposit	5 00

Students taking shop practice, per term	$ 3 00
Students using horse stalls, per term	25
Students not citizens of the U. S., per term	17 00
Music, vocal or instrumental, each per term	10 00

All fees must be paid in advance except music, half of which must be paid in advance, and half at middle of term.

BOARDING AND OTHER EXPENSES.

We hear much said these times as to the cost of education. Many parents would gladly give their children a college education if they felt able to do so. The cost of travel in a large territory is great, but this is offset by free text-books and practically free tuition. The cost of clothing is something; but students should be taught to dress inexpensively, yet neatly. Clothes cost a certain amount whether in school or at home. The cost of board at home is something, though this is seldom taken into consideration. Students need but little pocket money, and the social demands on all students are light. There will be but few occasions here for spending money unless the students make them. If young people whose parents are unable to assist them, really want a college education, they can find a way to secure it, though it be but a term at a time. There is a better demand for labor in New Mexico than in the east, most kinds are better paid, and any young person with sufficient energy and ambition, can, in time, work his way through college.

As yet the college can do nothing toward furnishing board and rooms. Students, so far, have secured board and lodging in private families at from $16 to $20 per month. It sometimes runs as high as $25 per month when a student rooms alone. Some students have taken rooms and boarded themselves at greatly reduced cost. In the west, where many boys have learned to cook, this plan has great advantages for those of limited means. A year's boarding by this plan, including room, should not exceed $100; and yet the student can have plenty of good, substantial food, and a comfortable room. Boarding clubs may be formed by students, and this is often a very good plan. With careful management this plan will reduce the cost of board and lodging to about $150.00 a year. Washing will cost each student from $1.50 to $3.00 per month. Students who propose to furnish their own rooms should provide for this before leaving home. The freight on such articles as will be needed and can usually be spared from home will be light. It is not economical either to rent or to buy.

As may be seen, a student can get through the year by self boarding for about $125.00; can board in a club and get through the year on from $150.00 to $175.00; and can board in a private family and expend from $200.00 to $250.00 according to his taste and means. It should be understood that all students are entitled to equal privileges in this institution; and will be accorded the same treatment, no matter what their condition in life. We believe that expenses here, (where free text-books, and almost free tuition are given,) will not run higher than in other institutions of similar character. Within reach of the college building are houses for rent at reasonable prices. Many families have moved here and resided in these or on rented ranches in the vicinity in order to give their children an opportunity to attend college. Whenever parents can do this, it should be done, as perhaps no other plan is so satisfactory.

PAID LABOR.

There is a considerable amount of paid labor on the farm, in the shops, and in the laboratories, that can be performed by students; and the policy will be to give it to students rather than to others. Some students have been able to earn enough during the past year, to pay their expenses; but those doing so have had constant employment in some subordinate position. No student should come expecting constant employment, or without sufficient means to pay the greater part of his expenses. The college can not undertake to furnish work for all students who wish it, or need it, in anything like sufficient amount to pay expenses; and even if it could, the student's time is needed chiefly for study, recitation, and practice. Still many worthy and industrious students pay a considerable part of their expenses by labor, which is given to those who are most trustworthy and meritorious; and who are regular and punctual in attendance, and correct in deportment. This labor is paid for at the rate of from 12½ cents to 15 cents per hour; but the faculty reserves the right to limit the amount of work any student may do.

DISCIPLINE.

The youth of New Mexico should esteem it a great favor that by the creation of the College of Agriculture and Mechanic Arts there has been provided for them the fullest and best opportunity to secure a practical education. Those students who enjoy the advantages here offered, should feel that excluding them because of their misuse or abuse of the privileges afforded, is the greatest penalty that can be inflicted.

Students who enter this school are expected to be honest, truthful, polite, attentive, and diligent. The authority exercised over them will be strict, yet at the same time reasonable and considerate. It should be understood that the college is for those students who are capable of a fair degree of self control, and who come here to fit themselves for useful and honorable places in life. If, after a fair trial, the influence of any student is found to be detrimental to scholarship, morals, or good order, dismissal will follow. The following are strictly forbidden: 1st, Indulging in the use of intoxicating liquors, or frequenting questionable resorts. 2d, The use of tobacco in any form in or about the college buildings. 3d, All indecent and profane language and behavior.

POLITICS.

It is the aim of the college to cultivate true patriotism, and respect for the laws of the Territory and Nation and for all constituted authority. Students will be taught their rights as citizens, and their duties as such; and there, teaching of this character, will end.

RELIGION.

All students will be trained in the principles of morality, and to respect the teachings of religion. Students will be encouraged to attend the various churches and Sunday schools. Entire freedom of choice is given to students in selecting the church they will attend. At the Presbyterian church are held meetings of the Young People's Society of Christian Endeavor. With the Methodist church is connected the Epworth League. Many of the students attend the weekly meetings of these organizations and receive great benefit. There is a large and flourishing Catholic church here, with a well known priest in charge, which affords religious training for students of that faith. No sectarian teachings will be tolerated in the college.

HOW TO WITHDRAW FROM THE COLLEGE.

If students have occasion to withdraw from the college, they should call on the president and make their arrangements with him. He will see that their accounts are properly adjusted, proper records made of their work, whatever money may be due from their credit deposit refunded, and so arrange their records that their manner of withdrawal shall not stand in the way of an honorable discharge.

Students who leave without having satisfactorily adjusted all these matters will not be entitled to an honorable dismissal.

EXAMINATIONS AND STANDING.

Examinations are held at the end of each term. Students must make a grade of 70 in each subject. Failing to make this grade students must report for re-examination on the day specified; failing then, they must take the subject with a subsequent class.

ATTENDANCE.

Students are expected to be punctual and regular in attendance. They will not be permitted to leave the college in term time without a leave of absence granted by the President or Faculty. Temporary leave of absence may be granted by the President or in his absence, by the Vice President. Final separation from the college must be acted upon by the Faculty.

The College of Agriculture and Mechanic Arts as a Teachers' Training School.

Section 10, Chapter xix., Laws of New Mexico, reads as follows: "Diplomas issued to graduates of the Normal Schools of New Mexico (at Silver City and Las Vegas), also diplomas issued to the graduates of the Territorial University at Albuquerque, the Territorial School of Mines at Socorro, and the Territorial Agricultural College at Las Cruces, shall be, and the same are hereby considered as first class teachers' certificates in any of the counties in the Territory of New Mexico."

By a law passed at the same session of the Legislative Assembly, St. Michael's College at Santa Fe, was given the same authority.

It will readily be seen that the above institutions are placed on an equality, whether wisely or not, in the matter of training teachers for the public schools of the territory. While the New Mexico College of Agriculture and Mechanic Arts, desires to avoid trenching on the ground of any other territorial educational institution, it will make an effort to properly train its graduates who expect to teach, for the duties of that calling.

Material Equipment.

The College Farm donated to the Territory by the citizens of Doña Ana county, contains about two hundred fifty acres of land. About one hundred acres of this farm is the best bottom land, well supplied with water for irrigation from the

Las Cruces Community ditch which crosses it. The remaining one hundred fifty acres is mesa land. About thirty acres of this has been cleared for a campus. Upon the campus the main college building is located. The location is a good one from a sanitary point of view. The campus is high and dry, and there are no surroundings which can breed disease. This mesa land affords ample room for any additional buildings which may be erected in the future.

The college farm is crossed near the center by a fine driveway from Mesilla Park Station to the college building. It is divided into eight plats, which in turn are subdivided into plats of various sizes, from a square rod to an acre. The smaller plats are used for special seeds and plants; the larger, for testing the cereals, grasses, forage plants, fibre plants, root crops, vegetables, and fruits.

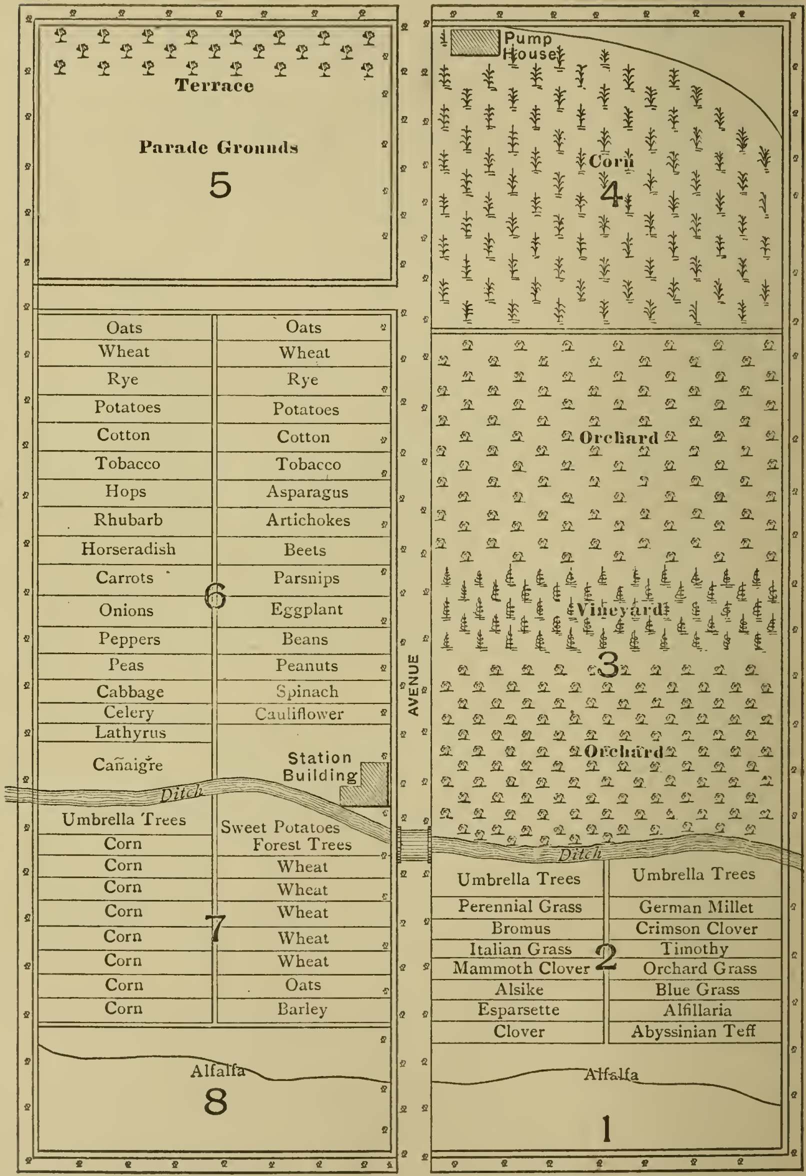
Plats I. and VIII. are in the old river bed and have water within one or two feet of the surface. The soil is alluvial with a sand sub-soil. These, together with parts of Plats II. and VII. are being tested in alfalfa.

That part of plat II. not in alfalfa, is being used for testing the perennial grasses, clovers, and forage plants.

Plat III. of twenty-five acres is occupied by the four year old orchard, in which there are set out in the quincunx form 150 varieties of peaches, 100 of apples, 60 of pears, 50 of plums and prunes, 16 of cherries, 20 of apricots, 4 of nectarines, 5 of quinces, 6 of figs, 8 of Japan persimmons, and 12 of nut-bearing trees. There are four trees of each variety.

To the east of these, set out in the square form, are 110 varieties of American and foreign grapes, the small fruits, hops, artichokes, and rhubarb; and, farther east, set out in the hexagonal form, are the trees of the new orchard now two years old.

Plat IV. is so divided that a part can be irrigated by river water and a part by well water; this is for the purpose of



PLAN OF

EXPERIMENTAL FARM.

ascertaining whether well water is deleterious to vegetation. The crop now being tested is corn.

Plat V. across the avenue from Plat IV. contains ten acres, and is used by the Athletic Association.

Plat VI. is chiefly devoted to the cultivation of the cereals, vegetables, rice, cotton, tobacco, sorghum, millet, teosinte, dourra, ramie, jute, flax, lathyrus, cow peas, vetches, lentils, lupins, and cañaigre. On this plat, the farm buildings are located.

The north half of plat VII. will be cultivated in corn for several successive years. It is divided into eight half-acre plats of which the first is planted March 1st; the second, March 15th; the third, April 1st; the fourth, April 15th; the fifth, May 1st; the sixth, May 15th; the seventh, June 1st; the eighth, June 15th. These plantings are to ascertain the best time for planting corn, while the succession of the same crop will determine whether the soil can be depleted so long as the river water contains a sediment as rich as that now deposited. The south half of this plat is being cultivated in sweet potatoes, tree seeds, and small grain; viz., 540 kinds of domestic and foreign wheat, 77 kinds of oats, 45 kinds of barley, and 24 kinds of rye.

COLLEGE BUILDING.

The College building is a fine brick structure of two stories and basement. It is trimmed with stone, and has a very heavy stone foundation. It is well built and finished, and cost about $25000. It contains thirteen rooms all of which are furnished and in constant use. The building is heated throughout by hot air furnaces, and is well supplied with gas and water. In the basement are the Chemical and Entomological Laboratories and the Engineering recitation room, each fitted up with the best appliances. Here is also the Wood Shop of the Mechanical Department. On the first floor are the President's office, the Mathematical Department, the Botanical, Physical, and Geological Department, and the Library. For lack of space, the library room will probably be utilized for the Business Department during the coming year. On the second floor are the Department of History and Political Science, the Department of Languages, the Department of Music and Elocution, and the Preparatory Department of the college. On this floor is a Hall capable of seating quite a large audience. It is in frequent use for class public exercises, music recitals, and entertainments by the college Literary Societies. On account of the lack of room, this hall is divided by movable partitions into three class rooms for the use of the Preparatory Department.

The Library and Reading Room is commodious, and furnished in a tasteful manner. The library contains more than 2000 volumes, to which additions are constantly being made. Each Department is well supplied with a technical library for daily use in the class room. The plan of Department libraries has been adopted as best calculated to increase the usefulness of the library by making it more accessible to students while engaged in special lines of work. The Reference library is quite extensive, containing encyclopedias, gazetteers, dictionaries, etc. The general library includes standard books on history, biography, travels, literature, art, science, and some of the best fiction.

In connection with the Library is a Reading Room, in which are found the following periodicals:—

Agricultural Science, *American Agriculturist, *American Cheesemaker, American Chemical Journal, American Journal of Psychology, American Machinist, *American Meteorological Journal, American Naturalist, Analyst, Arena, *Baltimore Weekly Sun, Blacksmith and Wheelwright, Book Buyer, *Botanical Gazette, Bullion (Los Angeles, Cal.), Bulletin Torrey Botanical Club, Canadian Entomologist, Century, Chemical News,

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* These publications are furnished to the library by the publishers gratuitously.

A CORNER OF THE LIBRARY.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS

*Chieftain (Socorro, N. M.), Compass, Cosmopolitan, Country Gentleman, Educational Review, Electrical Review, Engineering (London), Engineering News, Engineering Magazine, Engineering-Mechanics, Engineering Record, Entomological News,*Farmer's Magazine, Forum, Goldthwaite's Geographical Magazine, Golden Rule, *Grange Visitor, Harpers' Monthly Magazine, Harpers' Weekly, Harpers' Young People, *Hoard's Dairyman, *Industrial American, Irrigation Age, Journal American Chemical Society, Journal Association Engineering Societies, Journal of Education, Journal New York Entomological Society, Ladies' Home Journal (two copies),*Midland Poultry Journal,*New Mexico Collegian, Nebraska Farmer, North American Review, Pacific Rural Press, Popular Science Monthly, *Proceedings American Philosophical Society, Progressive Age, Psyche, Public Opinion, Public School Journal, Railroad Gazette, Railway Age, Review of Reviews, *Roswell Record, Scientific American, Scientific American Supplement, Science, *Shaft (Rincon, N. M.), *Southern Cultivator, *Stock Grower (Las Vegas, N. M.), School Journal—Kellogg's, Transactions American Entomological Society, *Transactions Massachusetts Horticultural Society, *Weather Review, Werner's Voice Magazine, Youth's Companion (two copies), Zoe.

OTHER BUILDINGS.

Back of the college building are the feed rooms and horse sheds. These are for the accommodation of the horses of the students and professors. The charge for their use is 25 cents a term, which is sufficient to keep them cleaned and in order.

Just back of these is a large well with wind pump and tank. This furnishes an ample supply of water for the main building.

To the south of the college has been erected a temporary wooden building 30x60 ft. to be fitted up for blacksmith shop

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* These publications are furnished to the library by the publishers gratuitously.

and foundry for the use of the Mechanical Department until the permanent shops can be built.

Below the college building is a pump house with engine and all other necessary machinery for pumping water from a system of six driven wells for the irrigation of the campus, which is much higher than the ditches which irrigate the farm land. This plant cost about $2500. From the use of this plant the students and others interested can learn the expense of hoisting water for irrigation purposes, the extent of ground that can be irrigated, and the effect of well water on vegetable life.

Near the center of the farm, close to the main ditch is located an adobe farm building erected at a cost of about $2000. It consists of a residence for the assistant in agriculture and horticulture; and a large room for storing seeds, supplies, etc.; also sheds for the storing of farm implements and machinery.

General Request.

We believe the College of Agriculture and Mechanic Arts offers a great deal to the young people of New Mexico. Every effort will be made to acquaint the people of the whole Territory with its purpose and work. Its courses of study are now equivalent to those of similar colleges in almost all of the older states. We believe that students can now get a practical education here in any line they wish. New schools usually make greater efforts than do older ones; and the energy put forth, and the instruction given are often superior. There are a great number of students sent from various parts of the Territory each year to eastern colleges. We ask parents who do this, to thoroughly investigate this college; and we believe if they will do so, it will get a share of their patronage; and that our people will in an increasing degree manifest their appreciation of the bounty of the U. S. and of the Territory here dispensed. We know it is better fitted to do good work than some of the eastern schools patronized by our people. By giving it proper support, a noble institution may be built up, the highest culture promoted, and lustre added to the good name of the Territory.

College Students.

SENIOR CLASS.

Garcia, Fabian,	Mesilla.
Larkin, Ralph Roy,	Las Cruces.
McGrath, Lemuel Charles,	Lordsburg.
Snow, Oscar Charles,	Mesilla.
Williams, Kate Agnes,	Las Cruces.

JUNIOR CLASS.

Bennett, Joseph Francis,	Las Cruces.
Casad, Jessie Edna, †	Mesilla.
Kezer, Charles Jacob, *	Las Cruces.
Peterson, Albert Henry,	Mesilla Park.
Williams, Arthur Edwin,	Las Cruces.

SOPHOMORE CLASS.

Bryan, John Bowman,	Las Cruces.
Dawson, Edith Marian,	Las Cruces.
Gilmore, Mae,	Fort Stanton.
Gilmore, Ora, †	Fort Stanton.
Gilmore, Watt, †	Fort Stanton.
McFie, Ralph Elmo,	Las Cruces.
Rhodes, Clarence Edgar,	Mesilla.
Walker, Joseph Milton,	Homestead, Pa.

FRESHMAN CLASS.

Ames, David Cecilio,	Las Cruces.

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* Died December 17, 1893.

† Not clear of conditions.

Barker, Millicent Lucy,	Las Cruces.
Bennett, Lola Jeannette, †	Las Cruces.
Bullard, Nettie, †	Pine Springs.
Casey, Edwin Eugene,	Las Cruces.
Casad, Gertrude,	Mesilla.
Christerson, Walter,	Chicago.
Coe, Edward James,	Lincoln.
DeMier, Maggie May,	Las Cruces.
French, Floy,	Las Cruces.
Holt, Walter,	Alma.
Holt, Elgin Bryce,	Alma.
Kezer, John Henry,	Las Cruces.
McGrath, Herbert James,	Lordsburg.
McGregor, Helen Mar, †	Gallup.
Rynerson, Henry Lemon,	Las Cruces.

SPECIAL STUDENTS.

Gould, John Gardner,	New York City.
Holt, Alfred Moss,	Alma.
Mills, Charles,	Danville, Ill.
Owen, Florence May,	Las Cruces.
Worden, Helen Medora,	Hillsboro.

Preparatory Students.

SECOND YEAR CLASS.

Bailey, Tudie,	Mesilla.
Baird, Alonzo Eugene,	Las Cruces.
Baird, Nancy Celia,	“ “
Bayard, John Harvey,	Burleson, Tex.
Buchoz, Edward Spencer,	Las Cruces.
Bullard, George Weems,	Pine Springs.
Bullard, Minerva Jane,	Pine Springs.
Cain, Fred Walter,	Kingston.
Carguile, Flora, ‡	Las Cruces.
Casad, Darwin,	Mesilla.

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† Not clear of conditions.

‡ Did not complete the year's work.

Coe, Albert Newton,	Farmington.
DeMier, James, ‡	Las Cruces.
Dunn, Susan,	Lake Valley.
Ford, Pinkie,	Las Cruces.
French, Ralph Emerson,	" "
Gilmore, Ula,	Fort Stanton.
Griggs, Gustave Dore, ‡	Mesilla.
Hinton, Arthur Richard,	New York City.
Holt, Valeria,	Alma.
Llewellyn, Morgan, ‡	Las Cruces.
Mackel, Ernest Peter,	Las Vegas.
Moore, Walter,	Georgetown.
Nagle, Nora Elmira, ‡	Palisades, Colo.
Peake, Dee,	Las Cruces.
Savage, Elizabeth May,	" "

FIRST YEAR CLASS.

Aguerre, Abraham,	Silver City.
Alvarez, Louis,	Anthony.
Ames, Primitivo S.,	Las Cruces.
Baird, William Wallace,	" "
Bermudez, Antonio Eduardo, ‡	Mesilla.
Bryan, Joseph, ‡	Las Cruces.
Bull, Thomas R.,	Mesilla.
Cliver, Paul Mitchell,	Mesilla Park.
Fraide, Berardo,	Las Cruces.
French, Fannie,	" "
Gilmore, Matthew,	Fort Stanton.
Gonzales, Pablo,	Las Cruces.
McFie, Maud Eliza, ‡	" "
McGregor, Marie Justina,	Gallup.
Owen, James Edward,	Las Cruces.
Parker, Marion Forrest,	" "
Rhodes, Helen Mabel,	Mesilla.
Smith, Nathan Canby,	Las Cruces.
Solomon, Harry,	Solomonv., A.T.
Steele, Matthew,	Las Cruces.

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‡ Did not complete the year's work

Music.

Bailey, Tudie,	Mesilla.
Baird, Nancy Celia,	Las Cruces.
Barker, Millicent Lucy,	" "
Bullard, Nettie,	Pine Springs.
Carguile, Flora,	Las Cruces.
Casad, Gertrude,	Mesilla.
DeMier, Maggie May,	Las Cruces.
Dunn, Susan,	Lake Valley.
Gilmore, Ora,	Fort Stanton.
Gilmore, Ula,	Fort Stanton.
Griggs, Gustave Dore,	Mesilla.
Holt, Valeria,	Alma.
McFie, Maud Eliza,	Las Cruces.
McGregor, Helen Mar,	Gallup.
McGregor, Marie Justina,	Gallup.
Owen, Florence May,	Las Cruces.
Peterson, Albert H.,	Mesilla Park.
Savage, Elizabeth May,	Las Cruces.
Solomon, Harry,	Solomonv., A.T.
Walker, Joseph Milton,	Homestead, Pa.
Williams, Arthur Edwin,	Las Cruces.
Williams, Kate Agnes,	" "
Worden, Helen Medora,	Hillsboro.

Summary.

Seniors	5
Juniors	5
Sophomores	8
Freshmen	16
Special	5
Preparatory	45
Music	23
	107
Names repeated	23
Total number of students	84

The Agricultural Experiment Station.

BOARD OF CONTROL:

Board of Regents of the College.

Thomas J. Bull, Mesilla, President.

Demetrio Chavez, Mesilla, Secretary and Treasurer.

John R. McFie, Las Cruces.

John D. W. Veeder, Las Vegas.

Robert Black, Silver City.

William T. Thornton, Governor, Santa Fé, *Ex-Officio.*

Amado Chaves, Superintendent Public Instruction, Santa Fé, *Ex-Officio.*

Station Staff 1894-5.

Samuel P. McCrea, Director.

Ainsworth E. Blount, A. M., Agriculturist and Horticulturist.

Elmer O. Wooton, B. S., Botanist.

Arthur Goss, M. S., A. C., Chemist.

T. D. A. Cockerell, Entomologist and Zoölogist.

Harvey H. Griffin, B. S., Assistant Agriculturist and Horticulturist.

R. Fred Hare, M. S., Assistant Chemist.

Fabian Garcia, B. S., Assistant Agriculturist and Horticulturist.

Frank E. Lester, Clerk and Stenographer.

By the congressional act of 1887 a "department" of agricultural colleges was endowed, having for its purpose the performing of experiments of value to agriculture and horticulture, and the diffusing of valuable information among the people.

This department of the college is in successful operation. The farm consists of about 100 acres of excellent land under irrigation, and a much larger amount of mesa land. At a great outlay of labor, the former has been graded to an almost perfect surface.

A great number of valuable horticultural and agricultural experiments are in process of testing, and more are being constantly begun. During a large portion of the year, students have opportunities to labor on this farm, thus enabling them to defray a considerable portion of their expenses. Besides this, they are under the direct guidance and instruction of an educated horticulturist and agriculturist of large experience. This alone is a valuable consideration.

Of the mesa land thirty acres have been cleared of mesquite and put into good condition for experimentation. A portion of this land is used without irrigation, and a portion of the remainder is supplied with water raised from wells by means of steam power.

A large amount of Entomological work has been done which promises results of great practical value to the horticulturist and agriculturist. The design of this department is to inform farmers and fruit-growers of the injurious insects found here, and to suggest the best methods for exterminating them. The value of such work is readily seen, and the method of disseminating information will be by bulletins issued at intervals.

In the Chemical department much work is being done on irrigating waters, native forage plants, and various other subjects of special interest to the farmers of the Territory. Besides being of the highest importance to the Agricultural class-

IN THE STATION CHEMICAL LABORATORY.

es, this work affords the students an opportunity of seeing chemical processes practically applied. Numerous assays of ores and determinations of minerals are also made in this department, thus affording the students an object lesson in this kind of work.

The Botanical department is devoting its time and attention to the collection of an herbarium and a thorough understanding of the local flora. Much work has been done in this line already as well as a considerable study of our native weeds.

The fungus diseases of plants, particularly those of the vine and orchard trees, have received some attention and will hereafter form the basis of one term's work for students of the Agricultural Course.

Students are required to do some collecting, and the specimens already in the herbarium are extensively used in class work so that students are in close contact with the regular work of the department.

Twelve bulletins have been issued on topics of interest to farmers, and more are in preparation. Those already issued treat of the following subjects:—

No. 1. April, 1890—General Information.

No. 2. Oct., 1890—Outline of Plans of Experimentation.

No. 3. June, 1891—Preliminary Account of Some Insects Injurious to Fruit.—C. H. Tyler Townsend.

No. 4. March, 1892—Fruit Trees, Forest and Shade Trees, Nut-Bearing Trees, and Vegetables.—A. E. Blount.

No. 5. March, 1892—Notices of Importance Concerning Fruit Insects.—C. H. Tyler Townsend.

No. 6. March, 1892—Cereals, Forage Plants, Grasses, Clovers, Textile Plants, and Sorghums.—A. E. Blount.

No. 7. June, 1892—Scale Insects in New Mexico.—C. H. Tyler Townsend.

No. 8. Nov., 1892—Wheat, Oats, Barley, Rye, Sugar Beets, Sorghum, Cañaigre, etc.—A. E. Blount.

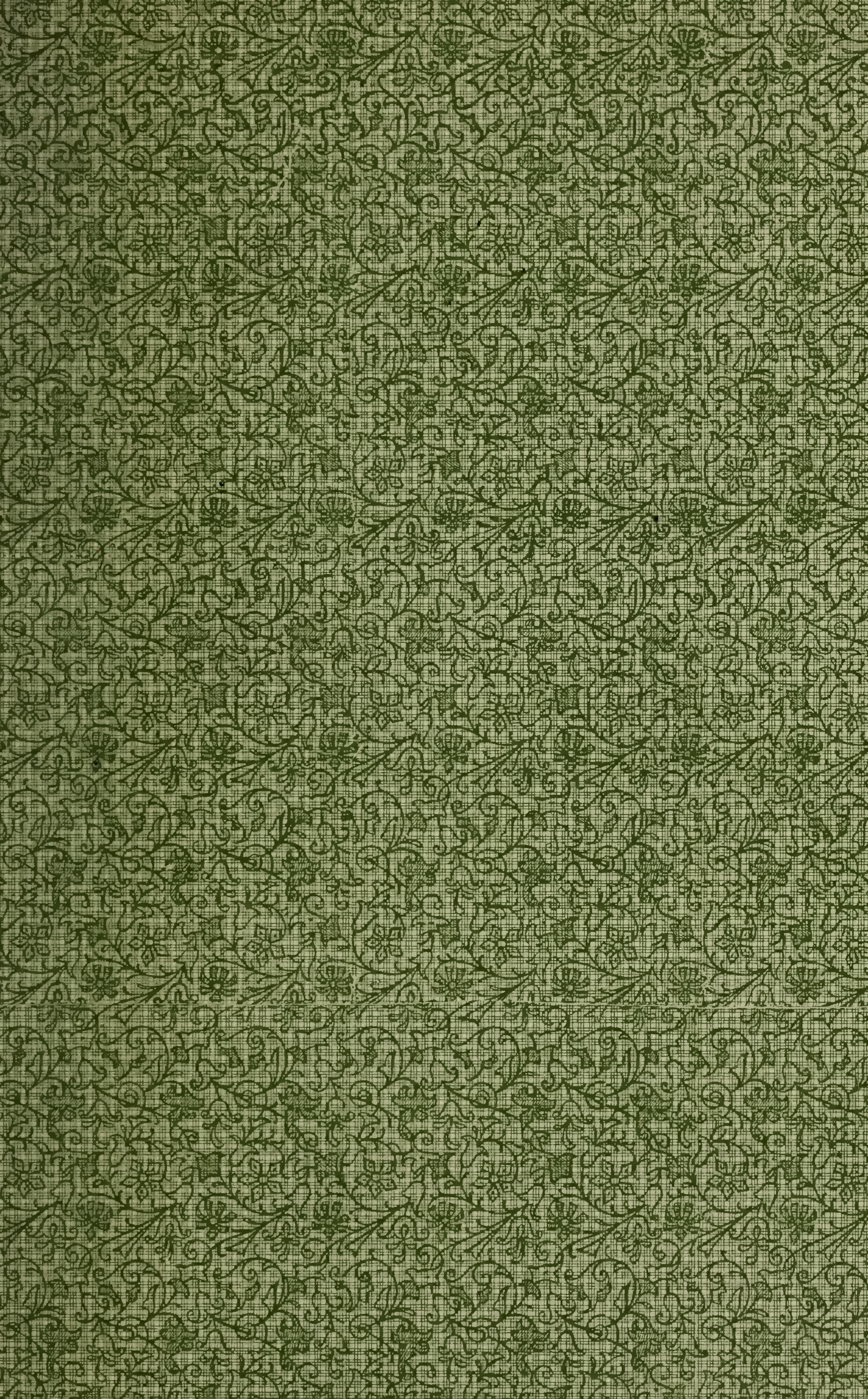
No. 9. May, 1893—Insecticides and their Appliances.—C. H. Tyler Townsend.

No. 10. Sept., 1893—Insects of 1893.—T. D. A. Cockerell.

No. 11. Oct., 1893—Notes on Cañaigre and Meteorological Data.—A. E. Blount and Harvey H. Griffin.

No. 12. Nov., 1893—The Value of Rio Grande Water for the Purpose of Irrigation.—Arthur Goss.

Upon application Bulletins will be sent *free* to any address in the Territory.



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